

# Women's Health: Findings from the California Women's Health Survey, 1997-2003



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## Acknowledgments

This report is a collaborative effort of individuals who are affiliated with the California Women's Health Survey (CWHS). We acknowledge with deep gratitude the contribution of the authors who prepared chapters for this report.

The idea for the report was initiated by Elizabeth Saviano, past Chief of the Office of Women's Health (OWH), California Department of Health Services (CDHS). The preparation of the report was coordinated by Zipora Weinbaum of the OWH. Members of the California Women's Health Survey Editorial Board, Paula Agostini, Jennifer Chase, Joan Chow, Edward Graham, Maria Gutierrez, Holly Hoegh, Marta Induni, Cindy Jaynes, John Mikanda, Stephanie Roberson, Jessica Schumacher, Sharon Sugerman and Zipora Weinbaum, reviewed the chapters and provided feedback and comments to the authors.

The following past and present OWH staff contributed to the effort by editing, proofing and providing the necessary administrative support: Jonelle Chaves, Tinah Concepcion, Maria Gutierrez, Dinorah Hall, Leslie Holzman, Kiran Lanfranchi-Rizzardi, Capperine Lewis, and Renee Wagner. Critical reviews were conducted by Vanessa Baird and Gregory Franklin, past acting Chiefs of the Office of Women's Health (OWH) and by Terri Thorfinnson, present Chief of the OWH. Finally, Jean Iacino provided comprehensive across-chapters report editing. James Marris from Graphiti Ink formatted the chapters.

Special acknowledgment is given to the programs that contributed to the CWHS and to the Survey Research Group that administers the survey. We also thank the women of California who contributed their health stories to the survey and whose health information provided the basis for analyses and conclusions of the chapters.

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# Women's Health: Findings from the California Women's Health Survey, 1997 – 2003

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## EXECUTIVE SUMMARY

This report is a compilation of the California Women's Health Survey (CWHHS) findings for the period 1997 through 2003. The CWHHS, the first California survey focusing on women's health, began in 1997 as a response to the lack of California-specific data on women's health status, behaviors and attitudes. The survey is the result of a unique collaborative effort between the California Department of Health Services, the California Department of Mental Health, the California Department of Alcohol and Drug Programs, the California Department of Social Services, California Medical Review, Inc (CMRI) (now called Lumetra), and the Public Health Institute. Contributing programs collaboratively design the survey and use the information derived from the survey to improve the health of California women through program planning, implementation, and evaluation.

The CWHHS is an annual household-based telephone survey that collects information from a sample of randomly selected women, 18 years of age and older. The survey, which is conducted in English and Spanish, includes core demographic questions and specific program questions. Programs participating in the CWHHS Workgroup are responsible for individual program questions and for the analysis of their respective data.

The following topics are covered in this report: tobacco use, alcohol use, dietary supplement use, sexual behavior, utilization of STD/HIV and family planning services, folic acid awareness, body weight, nutrition and physical activity, disability, osteoporosis, domestic violence, posttraumatic stress disorder, mental health, and screening for breast cancer. This report does not cover all women's health issues comprehensively because the choice of topics varies

with individual program needs. Some of the chapters provide analyses of combined annual data due to sample size issues.

Below we present key CWHHS report findings. Where available, findings were also compared with national Healthy People 2010 (HP2010) objectives that were developed by leading federal agencies as part of the prevention agenda for the nation (<http://www.healthypeople.gov>).

The CWHHS data indicated that California is making progress towards achieving positive health outcomes for women.

**Mammograms.** California has surpassed the Healthy People 2010 (HP2010) objective that 70 percent of all women ages 40 and above receive a mammogram within the past two years; in 2002, 79.3 percent of all California women had a mammogram within the past two years.

### **Sexually Transmitted Disease.**

- Awareness of chlamydia, a sexually transmitted disease that can cause infertility in women, has increased since 1997 in California. The proportion of women who reported having heard of chlamydia increased significantly from 74.5 percent in 1997 to 82.4 percent in 2001.
- The majority of women with chlamydia have no symptoms or noticeable signs of infection and, therefore, may not seek testing, diagnosis, and treatment. As a result, screening is a critical tool in controlling chlamydia. Since 1999, the proportion of sexually active women reporting

having had a chlamydia test in the preceding year has increased. Among sexually active women 18 to 24 years of age, the proportion reporting having had a chlamydia test in the previous year increased significantly from 37.9 percent in 1999 to 48.2 percent in 2002.

- Consistent and correct use of condoms and barrier contraceptives reduce the risk of STDs and unintended pregnancy. In 2000, over two thirds of women reported using a condom the first time they had sex with a new partner.
- About half of the women who had a new sexual partner in the past year reported that they had talked seriously about the risk of AIDS with their most recent sex partner.

**Tobacco Smoking Prevalence.** California has seen a small decline in the prevalence of smoking in women from 16.9 percent in 1997 to 15.0 percent in 2002, a pattern that was also reflected by age, race/ethnicity, and educational attainment.

Additional CWHs findings were observed in the following areas:

**Tobacco Use.** Smoking prevalence was higher among women who have not completed high school than their counterparts with more education. Women who were out of work or unable to work had higher smoking rates than their working counterparts. Current smoking prevalence among women of reproductive age (18-44) was higher than the prevalence of women age 45 and older, with nearly 10 percent of pregnant women in this same age group reporting smoking either every day or some days.

**Alcohol Use.** Women who were college educated, had household incomes equal or greater than the state median income, or were employed or full-time students were more likely to consume alcohol. Younger women were more likely to report heavy drinking occasions, including drinking five or more drinks on a single occasion at least once in the past 30 days and being drunk at least twice in the past year. Prevalence of past 30 days drinking was not significantly different among U.S.-born Hispanics compared with White women, but foreign-born Hispanics had the lowest prevalence of past 30 days drinking. Nearly one-third of women in the childbearing age group (18-44 years

of age) had inaccurate information about fetal alcohol syndrome (FAS) in 1999. (FAS is the manifestation of certain birth defects associated with the mother's alcohol use during pregnancy.)

**Dietary Supplement Use.** Over 6 million California women above 18 years of age were estimated to have used dietary supplements, including over 600,000 who used herbs or other botanicals in 1998. Women 45 years of age and older, White women, women with higher education, with higher income, or women who were insured were more likely to use dietary supplements to improve their health.

**Family Planning.** Respondents 18 to 44 years of age reported oral contraceptives as the most widely used method of family planning, followed by male condoms. About 17 percent of women at risk for unintended pregnancy in California were not using any method of contraception. South/Southeast Asian women had the highest rates of non-use of contraception among all California women at risk for unintended pregnancy.

**California Women of Childbearing Age and Folic Acid.** Folic acid helps to prevent birth defects such as neural tube defects (NTDs). Folic acid awareness increased in California from 1997 to 2000 (57 percent to 66.2 percent, respectively). The main source of folic acid information for most California women in 2000 were newspapers/magazines, with the exception of Hispanics who reported that physicians were their primary source of information. Approximately half of the women reported taking folic acid supplements in 2002.

**Obesity.** The prevalence of healthy weight as reported by the CWHs respondents was 53.3 percent in 1997, compared with 48.2 percent in 2002. Being overweight or obese was related to low income (e.g. income below \$35,000 or at or below the 200 percent of the federal poverty level), being food insecure, or having lower education. More than 60 percent of all respondents, except Black/African American women (51.1 percent), reported that their self-perception was affected by their weight. And a large proportion of underweight women (about 39.0 percent) reported that they considered themselves overweight.

**Disability.** About 17 percent of California women had a disability, defined as being limited in activity



due to a physical, mental, or emotional problem. Of those women, 18 percent said this problem has made it difficult for them to access medical care. Activity limitations were more common among women 65 years of age and older, of Aleutian/Eskimo or Native American descent, with low income, or women who were not able to work. Among women 40-64 years of age who have not had a hysterectomy, women with disabilities were less likely to have had a gynecological exam within the past two years.

**Osteoporosis.** In 2002, 17.1 percent of California women aged 55 and above reported that a doctor or health care provider had ever told them that they had osteoporosis. While osteoporosis prevention should begin in youth, about a third of women aged 18-24 did not know what osteoporosis was.

**Domestic Violence.** About 5.8 percent of women reported experiencing intimate partner physical domestic violence (IPP-DV) during the period 1998-2001 (an average 608,100 women per year). Approximately 0.7 percent of women reported experiencing intimate partner sexual violence and 2.4 percent reported experiencing intimate partner stalking in 2001.

**Posttraumatic Stress Disorder (PTSD).** PTSD is a disorder that can occur following life-threatening events such as military combat, natural disasters, terrorist incidents, serious accidents, or violent personal assaults like rape. The symptoms of PTSD include constant "re-experiencing" of the traumatic event. In 2001, 71.8 percent of the women responded "yes" to a question asking whether they ever had any experience or experiences that were frightening, horrible, or upsetting. Of those women, 28.2 percent reported experiencing one or more symptoms of PTSD. Symptoms of PTSD were over-represented among poor women.

**Mental Health.** A total of 15.2 percent of California women utilized specialty mental health services in the past year. However, about twice as many women (31.1 percent), reported a perceived need for mental health services.

## CWSH Data and HP2010 Objectives

The available statistics such as prevalence of osteoporosis, proportion of females at risk for unintended pregnancy, women experiencing intimate partner sexual and physical violence, and proportion of obese women were all higher in California women compared with HP2010 objectives (<http://www.healthypeople.gov>). It appears, therefore, that California women's health has yet to meet the HP2010 objectives in these areas.

## Health Disparities

The most striking findings of the report relate to health disparities among the CWSH respondents, based on age, race/ethnicity, and economic factors. These findings point to areas that would be appropriate to address for prevention and intervention efforts.

**Low Income:** Respondents reporting low income (e.g., income below \$35,000 or at or below the 200 percent of the Federal Poverty Level) also reported higher rates of activity limitation (disability), smoking rates, obesity/overweight, having experienced intimate partner physical domestic violence, and living with symptoms of post-traumatic stress disorder. Additionally, women living at or below 200 percent of the Federal Poverty Level were less likely to receive breast cancer screening services and to access other health care services than women with higher incomes.

**Young Age:** Compared with older respondents, respondents 18-24 years of age reported higher rates of tobacco smoking, chronic and acute drinking, and having experienced intimate partner physical domestic violence. Additionally, younger respondents were less likely to report having discussed AIDS with their current or most recent partners, and less likely to take folic acid supplements.

**Lack of Access to Health Care:** Respondents reporting lack of access to health care reported higher rates of having experienced intimate partner physical domestic violence. They were less likely to access mental health services and have both a mammogram and a clinical breast exam within the past year compared with women with health insurance.



**Race/Ethnicity:** White respondents reported higher rates of alcohol use, higher smoking rates, and higher rates of genital herpes diagnosis. Black/African American respondents were less likely to get mental health services than White respondents. Black/African American women reported higher rates of being overweight/obese, having experienced intimate partner violence, and higher tobacco use/smoking rates.

Hispanic women reported higher rates of experience of intimate partner violence, and being overweight/obese. Hispanic women were less likely to have both a mammogram and a clinical breast exam within the past year, compared with Black/African American and White women. Additionally, Hispanic women were less likely to get mental health services than White respondents. Hispanic women of childbearing age reported lower knowledge about folic acid and

lower use of supplements containing folic acid than non-Hispanics.

Asian/Pacific Islander women were less likely to have both a mammogram and a clinical breast exam within the past year, compared with Black/African American and White women. Asian/Pacific Islander women also reported lower rates of accessing mental health services than White respondents.

The information collected by the CWHs can support program planning and evaluation of programmatic interventions to reduce health disparities among California women. The wide distribution of measures associated with adverse health outcomes that women report suggests that collaborative efforts involving state and local agencies will be needed to help women to overcome the challenges that they are facing in order to improve their health.

# California Women's Health Survey Methods

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## CHAPTER 1

The California Women's Health Survey (CWSH) is an annual telephone survey that collects information from a sample of randomly selected adult women on a wide variety of health indicators, and health-related behaviors and attitudes. This survey began in March 1997 as a collaborative effort between the California Department of Health Services, the California Department of Mental Health, the California Department of Alcohol and Drug Programs, California Medical Review, Inc. (CMRI), the California Department of Social Services, and the Public Health Institute.

The CWSH is administered by the Survey Research Group (SRG) of the Public Health Institute. SRG specializes in conducting scientific health-related telephone surveys of the California population. Quality control procedures are rigorous to ensure a high level of accuracy in the data collected.

The survey collects data monthly from a random sample of California adult women living in households with telephones. The CWSH database contains information on California residents from March through December 1997, May through December 1998, February through December 1999, and January through December thereafter.

The California Women's Health Survey Work Group and SRG staff work collaboratively with experts in women's health research to develop the CWSH questionnaire. The survey instrument consists of approximately 200 questions and includes both a core set of questions shared among all programs and program-specific questions. Wherever possible, questions are selected from previously conducted national or statewide surveys for comparability.

Each year the State of California's Committee for the Protection of Human Subjects reviews and approves the survey protocol and questionnaire.

The CWSH asks respondents about a wide variety of behaviors related to past and present involvement in health care systems, food security status, participation in government nutrition programs, prenatal care, vitamin consumption, alcohol consumption, breastfeeding, sexually transmitted diseases, intimate partner violence, utilization of cancer screening procedures, and other preventative measures. They also are asked for basic demographic information, such as age, race/ethnicity, employment status, and education. Participation in the CWSH is completely voluntary and anonymous.

Trained interviewers conduct interviews following standardized procedures developed by SRG staff and the Centers for Disease Control and Prevention (CDC). In general, interviews are conducted during weekday evenings and on weekends, although some interviews are conducted during weekday business hours. Interviews are conducted in English and Spanish. The average interview conducted in English takes approximately 30 minutes to complete.

Using a computer-assisted telephone interviewing (CATI) system, interviewers read questions as they are displayed on a computer screen. Responses are keyed directly into the computer. Automatic data editing and coding programs prevent invalid responses from being entered and greatly increase the accuracy and speed of data entry. In addition, the interview process is facilitated by automatically skipping questions based on prior responses so that, for example, women who are age 60 or over are not asked if they are currently pregnant.

The CWHs uses a screened random digit dial (RDD) sample purchased from a commercial sampling firm. Because of the absence of cluster sampling or stratification, the screened RDD does not introduce a design effect into the sample. This unbiased sample is also cost effective and efficient.

Once a household is reached, all women living in the household aged 18 years or older are eligible to participate in the survey. If more than one member of the household is eligible, one person is selected at random (using a computer-generated random selection algorithm) to become the respondent. If the person selected is not available, an appointment is made to conduct the interview at a different time or on another day. Once a respondent is selected, no other household member can be selected, even if it is not possible to obtain an interview from the selected respondent.

To maximize the representativeness of the sample, standardized procedures are followed for calling back numbers that ring with no answer or give a busy signal, or for encouraging selected respondents who are reluctant to participate.

Response rates measure how successful a survey has been in reaching selected respondents. Two response rates are calculated for the CWHs, a cooperation rate and a CASRO (Council of American Survey Research Organizations) rate. The cooperation rate indicates the proportion of eligible households contacted that resulted in a completed interview. The CASRO rate assumes that some numbers that could not be reached represent eligible households. Table 1-1 shows the response rates and sample sizes for each year.

During 2000 and 2001, the disposition codes (call outcomes) for the CWHs were changed to correspond exactly with CDC disposition codes for the Behavioral Risk Factor Surveillance System. Because of this, the upper-bound and CASRO response rates declined from prior years.

Table 1-2 shows the unweighted distribution of the cumulative sample (1997-2003) by age and

race/ethnicity. In this table, and in the remainder of this report, "White" refers to non-Hispanic Whites; "Hispanic" refers to those persons who indicated that they were of Hispanic origin regardless of race/ethnicity; "Black" refers to those persons who indicated that their race/ethnicity was Black/African American; and the categories "Asian/Other" or "Other" refer to all other racial/ethnic groups combined unless otherwise specified. Table 1-3 shows the percentages of the cumulative sample (1997-2003) in each education and race/ethnicity category. Figure 1-1 shows the distribution of household income. In addition, almost 37 percent of respondents reported having at least one child in the household.

Through the sampling process, SRG attempts to collect interviews from a random sample that is representative of California's population. The age and race/ethnic characteristics of the CWHs sample differ to some extent from the age and race/ethnic characteristics of the female California population. In addition, the probability of selection within a household is different for different households and individuals. Therefore, to obtain meaningful population estimates, all analyses in this report have been weighted to the age and race/ethnicity of the 1990 California population. No adjustment is made for the observed differences in education or income.

The post-stratification weights used here are ratio-adjusted and correct the age and race/ethnic distribution of the CWHs sample so that it matches the demographics of the California population. The probability of selection adjustment used in creating the weights takes into account the number of women in the household and the number of unique telephone numbers in the household.

Data from this report should be interpreted with caution. Due to the cross-sectional design of the CWHs, causality is difficult to establish between dependent and independent variables because they are measured simultaneously. In addition, the survey is only completed in English and Spanish, which may exclude a portion of the population. Recall bias also may be a problem with this survey. Information recall

*CWHs quality control procedures are rigorous to ensure a high level of accuracy in the data collected.*

may be particularly difficult on a telephone survey.

Another area of concern is that over-reporting of healthy behaviors and underreporting of unhealthy behaviors is well documented in behavioral survey research. This study is population-based; the results can only be generalized to non-institutionalized adult women in California living in households with telephones. However, over 95 percent of households in California are estimated to have telephones<sup>1</sup> and the effects of non-coverage appear to be small.

These data were weighted to the age and race/ethnic distribution of 1990 California population for women 18 years and older. The distribution of this population has changed since 1990; however, this was the best population data available at the time of this study. Finally, while the sample sizes are adequate to make statewide estimates, when examining subgroups of the population, small cell sizes may result in unstable estimates.

**Table 1-1:** Sample size and response rates for the California Women's Health Survey<sup>a</sup>

Year	Sample Size	CASRO Rate (percent)	Cooperation Rate (percent)
1997	4,010	49.0	67.0
1998	4,006	49.0	70.0
1999	4,163	46.0	81.0
2000	4,012	38.0	74.0
2001	4,018	25.0	74.0
2002	4,009	37.0	72.0
2003	4,004	40.0	72.0

a This table does not include partial completions.  
Source: California Women's Health Survey (CWHs).

**Table 1-2:** Sample sizes in age and race/ethnicity cells in cumulative 1997-2003 dataset<sup>a</sup>

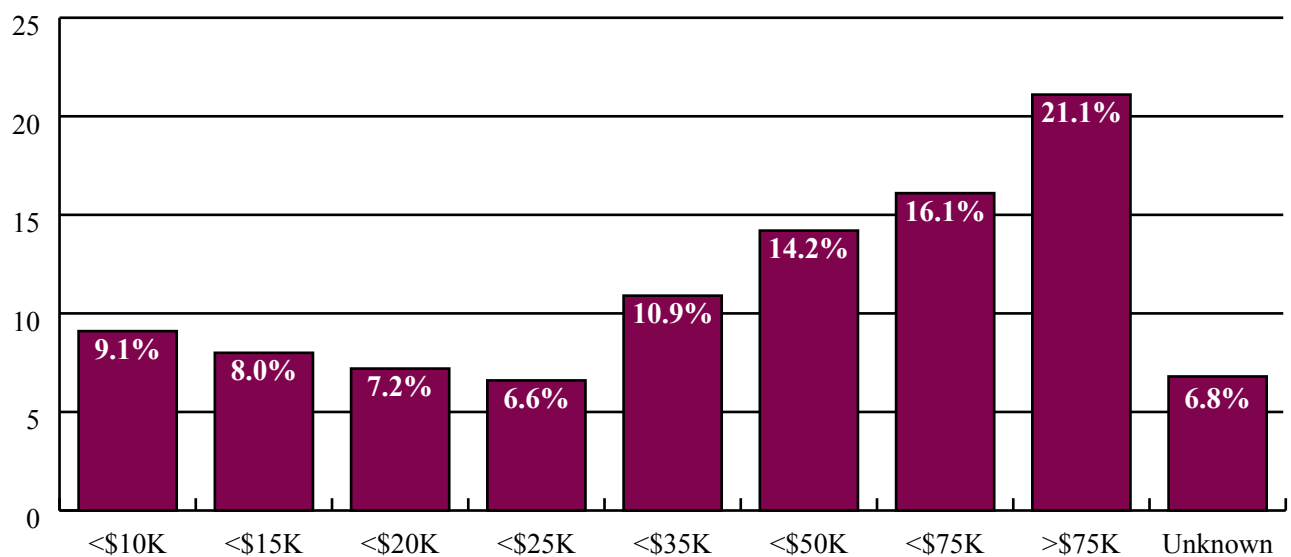
Race/Ethnicity	Age Categories						Total
	18-24	25-34	35-44	45-54	55-64	65+	
White	1,098	2,739	3,919	3,786	2,606	3,657	17,805
Black/African American	176	359	386	307	183	191	1,602
Hispanic	1,124	2,542	1,989	978	501	409	7,543
Asian/Other	251	578	545	394	165	148	2,081
Total	2,649	6,218	6,839	5,465	3,455	4,405	29,031

a This table includes partial completions that are included in the calculation of weights.  
Source: California Women's Health Survey (CWHs).

**Table 1-3:****Percent sample by education and race/ethnicity in cumulative 1997-2003 dataset**

Education	Race/Ethnicity (percent)				
	White	Black/ African American	Hispanic	Asian/Other	All Races
Not a High School Grad	5.3	8.6	42.2	4.5	14.4
High School	23.2	27.8	25.3	14.3	23.3
Some College	33.4	37.4	20.5	25.1	29.9
College Grad	23.0	17.5	8.9	37.7	20.3
Master's or more	15.1	8.6	3.2	18.3	12.1

Source: California Women's Health Survey (CWHs).

**Figure 1-1****Percent of respondents in each income category in cumulative 1997-2003 dataset**

Source: California Women's Health Survey (CWHs).

## Reference

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## Tobacco Use Among Women in California, 1997-2002

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### Introduction

Cigarette smoking continues to be the number one preventable cause of death, resulting in an estimated 178,000 deaths of women in the United States<sup>1</sup> and 18,000 deaths among California women each year.<sup>2</sup> Indeed, since 1980, over three million women died in the United States prematurely from smoking-related diseases<sup>3</sup> and each year during the 1990s, women lost an estimated 2.1 million years of life due to smoking-attributable premature deaths.<sup>3</sup> Lung cancer, once rare among women, has surpassed breast cancer as the leading cause of female cancer death in the United States.<sup>3</sup> Lung cancer, however, is only one of many serious health consequences faced by women who smoke. Although women and men who smoke “share excess risks for diseases such as cancer, heart disease, emphysema, and stroke, women also experience unique smoking-related disease risks related to fertility, oral contraceptive use, menstrual function, and cervical cancer,”<sup>3</sup> in addition to pregnancy risks, including pre-term delivery, stillbirth, low birth weight, and sudden infant death syndrome (SIDS).<sup>3</sup>

Since its inception in 1989, the mission of the California Department of Health Services, Tobacco Control Section (TCS), has been to work toward achieving a tobacco-free California and to reduce illness and premature death attributable to tobacco by implementing programs that reduce tobacco use and exposure to secondhand tobacco smoke. TCS incorporates a comprehensive approach to reducing tobacco use including a statewide media campaign; tobacco control programs in local health departments; competitively selected state, regional, and community-based projects; a statewide telephone

smoking cessation “quitline,” that includes specialized assistance for pregnant women; and an extensive evaluation of the entire tobacco education campaign. From 1988 to 2001, smoking prevalence among women in California has declined by 32 percent,<sup>4</sup> compared with 19 percent in the United States over this same time period.<sup>5</sup>

### Methods

Data from the 1997-2002 California Women’s Health Survey (CWSH) were used to examine trends in current and daily smoking among California women overall and by demographic subgroups including age, race/ethnicity, marital status, education, employment, poverty status (at or below 100 percent of the federal poverty level), and pregnancy status. Overall annual sample sizes ranged from approximately 3,500 to 4,000 throughout this time period. Trends in smoking among California women were derived from two questions on the CWSH related to smoking history (“Have you ever smoked 100 cigarettes in your entire life?”) and smoking status (“Do you now smoke cigarettes every day, some days, or not at all?”). Self-reported smoking status has been shown to be a reliable surveillance tool for monitoring changes in smoking behavior.<sup>6,7</sup> Definitions of current and daily smoking were consistent with definitions used by the Centers for Disease Control and Prevention (CDC). A current smoker is defined as a respondent who reports smoking 100 cigarettes or more in her lifetime and who reports now smoking either every day or some days. A daily smoker is defined as a respondent who reports ever smoking 100 or more cigarettes in her lifetime and who reports smoking every day. See Appendix B for the exact wording of the questions



on the CWS instrument. For the purpose of these analyses, answers provided from respondents who offered either a “don’t know” response or refused to answer the relevant survey question(s) were set to “missing.”

Prevalence estimates by race/ethnicity were age adjusted using direct age-standardization to the 1990 California population of women 18 years of age and over due to the known relation between age and smoking prevalence rates and age distribution differences within the race/ethnicity subgroups. The racial and ethnic designations used in this section were those used in the CWS instrument. Due to limitations in sample sizes, American Indian/Alaska Native, Asian, and Pacific Islander along with other race/ethnicity groups were combined into an “Asian/Other” racial group category. Examination of smoking status by educational attainment was restricted to women 25 years of age and older. Pregnancy status was defined as those women who reported being pregnant at the time of the survey. Comparisons made by pregnancy status were restricted to a sub-sample of women of reproductive age (18-44 years of age).

For the descriptive analysis including the examination of trends over time, differences were assessed with the examination of 95 percent confidence intervals that were calculated for all smoking prevalence rates using the SAS Surveymeans procedure, release 8.2. This version of SAS allowed for the calculation of prevalence estimates and standard errors that accounted for both sampling and weighting factors. Statistical significance between demographic subgroup estimates in 2002 was determined with the use of chi-square statistics and a significance level of 0.05.

## Results

### Current Smoking Trends, 1997-2002

Overall, there was a small decline in current smoking prevalence, from 16.9 percent in 1997 to 15.0 percent in 2002 (see Figure 10-1), a pattern that was also

reflected by age, race/ethnicity, and educational attainment. Throughout this time period, smoking prevalence was higher in the 18-44 age group than among women 45 years of age and older. Smoking prevalence was higher among Black/African American and White women than among Hispanic women and women in the Asian/Other race/ethnicity group. Throughout the 1997-2002 period, prevalence was higher among women with less than a high school degree than among women with a high school degree or more.

### Smoking Status Differences by Demographic Characteristics, 2002

#### Current Smoking

Current smoking was significantly higher among women 18-24 years of age (20.2 percent) than every other age group except 35- to 44-year-olds. Smoking prevalence among adults 65 years of age and older (7.8 percent) was significantly lower than any other age group (see Table 10-1).

There were likewise differences in smoking prevalence by race/ethnicity. Age-adjusted smoking prevalence was significantly higher among Black/African American (20.4 percent) women and White women (18.1 percent) than either Hispanic women or women in the Asian/Other racial category, who have the lowest smoking prevalence rates (9.7 and 7.1 percent, respectively) (see Table 10-1).

Smoking differed significantly by pregnancy status, with pregnant women (18-44 years of age) significantly less likely to have reported being current smokers than women who reported not being pregnant at the time of the survey (9.5 and 19.5 percent, respectively). In addition, women of reproductive age (18-44 years of age; 17.1 percent) had significantly higher smoking prevalence than women 45 years of age and older (12.0 percent) (see Table 10-1).

Smoking prevalence also differed by marital status. Women who reported being married/partnered (10.9

*Smoking prevalence was higher in the 18-44 age group than among women 45 years of age and older.*



percent) were significantly less likely than either women who were previously married (20.2 percent) or never married (22.7 percent) to currently smoke (see Table 10–1).

Current smoking prevalence varied by socio-economic factors including education level, employment, and poverty status. Smoking prevalence was 1.5 times higher among women with less than a high school degree (18.0 percent) than among women with a high school degree or more (12.2 percent), a statistically significant difference. Consistent with this pattern, smoking prevalence was significantly higher among women with household income levels at or below 100 percent of the federal poverty level (19.1 percent) than among women with household incomes above the poverty level (14.7 percent) (see Table 10–1). Women who were either out of work or unable to work had significantly higher smoking rates (25.6 percent) than women who worked full-time or were students (16.8 percent), worked part-time or were self-employed (14.0 percent), were homemakers (10.1 percent), or were retired (7.5 percent) at the time of the survey (see Table 10–1). See Table 2-1 for a summary of comparisons across demographic groups.

#### *Daily Smoking*

The proportion of current smokers who smoked every day was 66.1 percent in 2002. This proportion differed, however, by demographic subgroups. Women of reproductive age (18-44 years of age) were more likely than older women to smoke every day (63.8 percent and 70.8 percent), though this difference was not significant statistically. White women (71 percent) were more likely than Hispanic women (48.9 percent) to smoke every day than some days. Women over 25 years of age with less than a high school degree were significantly more likely than women with a high school degree or more to smoke every day (76.3 percent and 61.9 percent, respectively). There was no significant difference, however, in the proportion of women who smoked every day by poverty, employment, or partner status. The sample size of daily smokers was insufficient

(n<50) to examine differences among Black/African American smokers, smokers in the Asian/Other racial category, or by pregnancy status.

#### **Discussion**

From 1997 to 2002, smoking prevalence declined slightly among California women. Though smoking prevalence over this time period was lower in California than the rest of the United States, a similar decline was evident with smoking prevalence declining from 22.1 percent in 1997 to 20.0 percent in 2002 in the United States.<sup>8</sup> These trends both in California and the rest of the United States represent a slowing in the decline in smoking prevalence among women since the latter 1990s, compared with the more dramatic declines that were evident from other surveys in the 1980s to the early 1990s.<sup>3</sup>

There continues to be important differences in smoking behavior by demographic characteristics including age, race/ethnicity, marital status, pregnancy, and socio-economic status. In 2002, current smoking prevalence was higher among women in younger age groups. In fact, current smoking prevalence among women of reproductive age (18-44 years of age) is nearly one and a half times the prevalence of women 45 years of age and older, with nearly ten percent of pregnant women in this same age group reporting smoking either every day or some days. Smoking during pregnancy, however, is traditionally defined as any smoking during the history of the pregnancy and is typically assessed at the time of birth (e.g., on birth certificates). CWHHS, in contrast, identified pregnant smokers at one point in time only, likely resulting in lower prevalence rates. Smoking during pregnancy is an important indicator, since cigarette smoking has been identified as a significant and modifiable risk factor for both low birth weight<sup>9,10</sup> and pre-term delivery.<sup>9</sup> Maternal smoking during pregnancy has also been implicated in SIDS,<sup>11</sup> and increases in problem behavior rates of toddlers,<sup>12</sup> among other health effects.

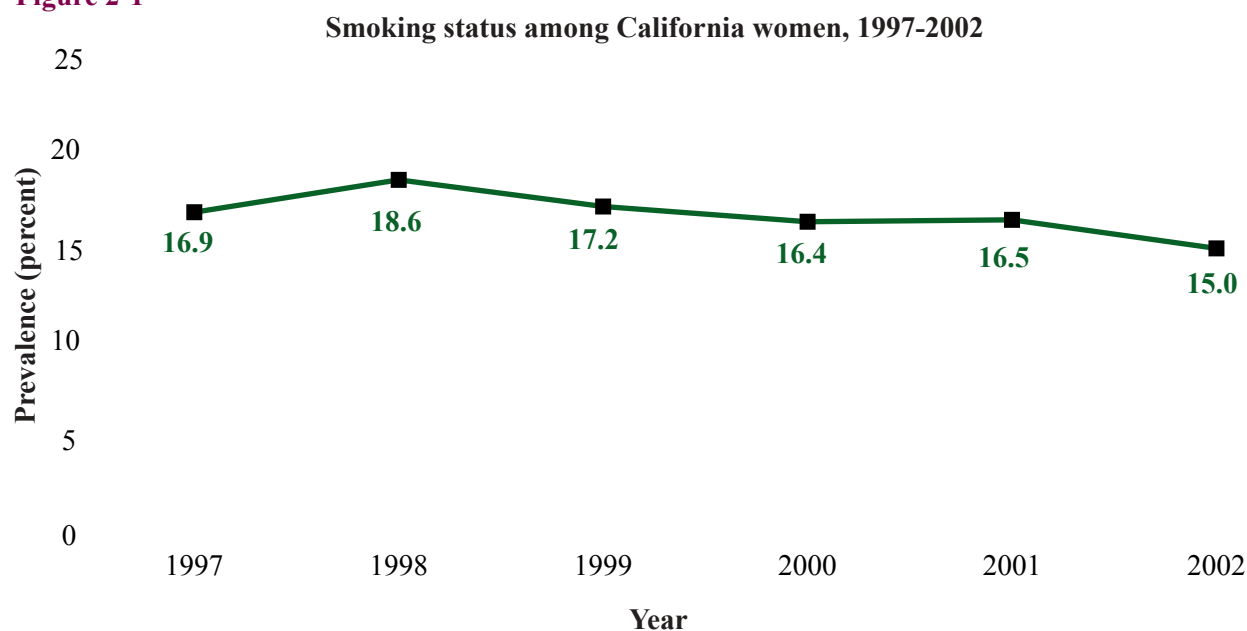
*From 1997 to 2002,  
smoking prevalence  
declined slightly among  
California women.*

In addition to patterns evident by age, current smoking prevalence was higher among Black/African American and White women, among previously married or never married women, and among women of lower socio-economic status (women with less than a high school degree, with household incomes at or below 100 percent of the federal poverty level, and women who were out of work/unable to work at the time of the survey). All of these trends are consistent with prevalence patterns evident in the rest of the United States. The socio-economic gradient in smoking prevalence did not exist 40 years ago,<sup>13,14</sup> nor does it exist in all cultures,<sup>15</sup> suggesting that public health campaigns against smoking have been more effective among those with higher socio-economic status. Although the exact mechanism by which income and education influence smoking behavior is unclear, potentially numerous psychological, behavioral, and socio-economic factors may contribute to the difference. Of the near 11 million women in

California over the age of 25, 23 percent, or 2.5 million women, had a high school degree or less.<sup>16</sup> This fact underscores the importance of creating effective tobacco policies that reach women in lower socio-economic status groups.

To address the disproportionate burden of tobacco in California by socio-economic status and other priority populations, TCS funded the California Partnerships for Priority Populations in 2004. These partnerships specifically address the use of tobacco in low socio-economic status populations and in the building and construction trades, along with tobacco use in the Asian/Other, Black/African American, Native American, Hispanic, Lesbian, Gay, Bisexual, and Transgender communities. These community partnerships will conduct advocacy campaigns and support projects funded by TCS to serve priority populations in California with tobacco control-specific interventions, with the ultimate goal of eliminating tobacco use disparities.

**Figure 2-1**



Source: California Women's Health Survey (CWHS), 1997-2002

**Table 2-1****Smoking status among California women, 2002**

Demographic Variable	Prevalence (95% Confidence Interval)			
	Ever Smoker	Current Smoker	Daily Smoker	Some Day Smoker
<b>Total</b>	<b>37.9 (+/-1.6)</b>	<b>15.0 (+/-1.3)</b>	<b>9.9 (+/-1.1)</b>	<b>5.1 (+/-0.8)</b>
<b>Age</b>				
18-24	30.8 (+/-5.4)	20.2 (+/-4.8)	11.6 (+/-3.7)	8.6 (+/-3.5)
25-34	29.8 (+/-3.4)	14.8 (+/-2.7)	9.8 (+/-2.3)	5.0 (+/-1.6)
35-44	38.1 (+/-3.3)	17.6 (+/-2.7)	11.8 (+/-2.3)	5.8 (+/-1.6)
45-54	40.1 (+/-3.6)	14.9 (+/-2.6)	10.0 (+/-2.1)	4.9 (+/-1.7)
55-64	49.0 (+/-4.7)	14.8 (+/-3.4)	11.6 (+/-3.0)	3.2 (+/-1.7)
65+	47.0 (+/-4.0)	7.8 (+/-2.1)	5.2 (+/-1.8)	2.5 (+/-1.1)
<b>Reproductive Age</b>				
18-44	32.9 (+/-2.2)	17.1 (+/-1.9)	10.9 (+/-1.5)	6.2 (+/-1.2)
45+	45.2 (+/-2.4)	12.0 (+/-1.5)	8.5 (+/-1.3)	3.5 (+/-0.8)
<b>Race/Ethnicity<sup>a</sup></b>				
White	46.3 (+/-1.7)	18.1 (+/-1.7)	12.8 (+/-1.5)	5.3 (+/-1.0)
Black/African American	40.5 (+/-7.2)	20.4 (+/-6.4)	11.8 (+/-4.6)	8.5 (+/-5.2)
Hispanic	22.8 (+/-2.6)	9.7 (+/-2.0)	5.0 (+/-1.4)	4.8 (+/-1.5)
Asian/Other	17.5 (+/-4.6)	7.1 (+/-3.2)	4.3 (+/-2.4)	1.8 (+/-2.2)
<b>Marital Status</b>				
Married/Partnered	32.9 (+/-1.9)	10.9 (+/-1.3)	7.4 (+/-1.1)	3.6 (+/-0.8)
Previously Married	51.8 (+/-3.5)	20.2 (+/-2.8)	14.4 (+/-2.5)	5.8 (+/-1.6)
Never Married	36.7 (+/-4.6)	22.7 (+/-4.1)	12.7 (+/-3.2)	9.0 (+/-3.0)
<b>Education<sup>b</sup></b>				
Less than High School	42.4 (+/-2.9)	18.0 (+/-2.3)	13.7 (+/-2.2)	4.3 (+/-1.1)
High School or more	37.3 (+/-2.1)	12.2 (+/-1.4)	7.5 (+/-1.1)	4.6 (+/-0.9)
<b>Employment Status</b>				
Full-Time Work/Student	35.6 (+/-2.6)	16.8 (+/-2.1)	11.1 (+/-1.7)	5.7 (+/-1.3)
Part-Time/Self-Employed	37.8 (+/-3.9)	14.0 (+/-3.0)	9.8 (+/-2.5)	4.2 (+/-1.8)
Out of Work/Unable to Work	46.7 (+/-5.2)	25.6 (+/-4.9)	15.9 (+/-3.9)	9.6 (+/-3.7)
Homemaker	27.4 (+/-3.5)	10.1 (+/-2.4)	6.6 (+/-2.0)	3.6 (+/-1.5)
Retired	49.7 (+/-4.4)	7.5 (+/-2.4)	5.4 (+/-2.0)	2.1 (+/-1.3)
<b>Poverty Status</b>				
At or Below Federal Poverty Level (100%)	34.5 (+/-4.9)	19.1 (+/-4.3)	11.9 (+/-3.3)	7.1 (+/-3.1)
Above Federal Poverty Level	39.0 (+/-1.8)	14.7 (+/-1.4)	9.7 (+/-1.2)	5.1 (+/-0.9)
<b>Pregnancy Status<sup>c</sup></b>				
Pregnant	30.6 (+/-9.5)	9.5 (+/-6.7)	6.6 (+/-5.6)	2.9 (+/-4.0)
Not Pregnant	34.2 (+/-2.4)	19.5 (+/-2.1)	13.3 (+/-1.8)	6.2 (+/-1.3)

a Age-adjusted using the direct standardization method to the 1990 California population of women.

b Analysis restricted to women aged 25 and older

c Pregnant as compared to non-pregnant women, ages 18-44

Source: California Women's Health Survey (CWHS), 2002.

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# Alcohol Consumption Among Adult Women: Findings from the California Women’s Health Survey, 1997 – 2002

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## CHAPTER 3

### Introduction

This chapter examines prevalence data related to alcohol consumption and heavier drinking among respondents of the California Women’s Health Survey (CWHs) during 1997 through 2002. In addition, this chapter explores knowledge of fetal alcohol syndrome (FAS) among survey respondents based on data from the 1999 CWHs.

The California Department of Alcohol and Drug Programs (ADP) oversees a wide array of programs for preventing and treating alcohol and other drug-related problems, including programs for women. ADP also oversees a statewide network of publicly-funded perinatal alcohol and drug programs that annually serve over 37,600 pregnant and parenting women accompanied by approximately 56,400 children (from birth to age 18). In addition, ADP helps enhance capability, skills, and capacity in substance abuse treatment for women, children, and other populations through support of technical assistance and training to agencies, organizations, and community groups. Since 1997, ADP has participated in the CWHs to obtain timely information about women and alcohol. This state-specific information about drinking patterns among women can contribute to efforts to prevent alcohol-related problems among women and to better understand relationships between heavier drinking and other health risks among women.

### Background

National population-based studies indicate that women are less likely than men to drink or to drink heavily.<sup>1</sup> At the same time, as a result of gender-

related physiological differences, women may experience negative health consequences at lower levels of consumption and with a shorter duration of heavier drinking than men.<sup>2, 3</sup> In addition, emerging research stresses the importance of gender-specific health risks, such as growing evidence documenting a relationship between alcohol consumption and risk of breast cancer.<sup>4</sup>

Heavier alcohol use is associated with a wide array of health-related problems including risk for injury, illness, and alcohol dependence. Women who are heavier drinkers appear to be at risk for a number of health problems including alcohol-related liver disease, injury, neurological problems, hypertension, stroke, giving birth to an infant with fetal alcohol syndrome, and gynecological problems.<sup>2</sup> However, risks for alcohol-related problems are not limited to heavy drinkers. Measures of heavier drinking occasions (e.g., five or more drinks on one occasion) are often associated with high levels of alcohol-related risks or problems, even when overall volume is low.<sup>5, 6</sup>

### Methods

The combined 1997-2002 California Women’s Health Survey (CWHs) data set examines patterns of abstinence, drinking, and heavier drinking among women based on several core measures. First, women were categorized as current drinkers based on a positive response to the question, “During the past month, have you had at least one drink of any alcoholic beverage such as beer, wine, wine coolers, or liquor?” Second, chronic drinking, defined as an average of 60 drinks or more in the past month, was created using two



questions: "During the past month, how many days per week or per month did you drink any alcoholic beverage on the average?" and "On the days when you drank, about how many drinks did you drink on the average?" Third, women were classified as at risk for "acute" drinking if their response to the question "Considering all types of alcoholic beverages, how many times during the past month did you have five or more drinks on an occasion?" was one or more.

In the 1999-2002 surveys, study respondents were also asked, "How often in the past year did you drink enough to feel drunk?" Analyses compared women who were drunk twice or more in the past year to women who reported drinking enough to feel drunk once or not at all. In the 1999 CWHs, respondents were asked a question to determine their knowledge about fetal alcohol syndrome. The question asked respondents to identify which one of the following, in their opinion, best described fetal alcohol syndrome: a baby is born drunk, born addicted to alcohol, or born with certain birth defects. Respondents who answered correctly (born with certain birth defects) were compared with respondents who offered incorrect answers or who did not know.

Differences in drinking measures between groups were explored in relation to the following demographic variables: age, race/ethnicity, marital status, education, employment, income, and sexual orientation (based on proxy measure of gender of partners over the respondent's lifetime). In addition, drinking patterns were compared between women who reported being pregnant when they responded to the survey and those who were not pregnant. Cases in which respondents refused or stated they did not know the answer to questions were excluded from analyses with one exception: respondents who stated they did not know the correct response to the question about fetal alcohol syndrome were included in analysis of that question. Prevalence was estimated with 95 percent confidence intervals for each drinking measure. Tests for differences between subgroups in each of the demographic groups described above were conducted using chi-square tests and, in the case of demographic

groups with more than two categories, ANOVA with follow-up pairwise tests and Bonferroni adjustments for multiple comparisons. Significant between-group differences are reported in the narrative below. The results in the table below reflect bivariate analyses only; they do not control for possible relationships between the different demographic variables.

## Results

Approximately one-half of the study respondents reported drinking in the past 30 days. Specifically, 49.6 percent were drinkers and 50.4 percent were abstainers. Overall, 1.4 percent of women in the sample drank an average of 60 or more drinks a month (chronic drinking) and 7.2 engaged in drinking five or more drinks on a single occasion (acute drinking) at least once in the prior month. Approximately 14.3 percent of women reported having been drunk twice or more in the past year. Differences in prevalence rates by demographics are depicted in Table 3-1.

### Drinkers/Abstainers

Younger age groups were more likely to be drinkers compared with women 55-64 years of age and 65 years and older. Never-married women were also more likely to be drinkers. White women were more likely to report drinking in the past 30 days than other groups. However, an analysis of drinking status that disaggregated Hispanic women by country of origin (analysis not shown) found that prevalence of past 30-day drinking was not significantly different among U.S.-born Hispanics (46.7 percent) compared with White women, but that foreign-born Hispanics had the lowest prevalence of drinking (21.6 percent). Socioeconomic indicators were consistently associated with past 30-day alcohol consumption. Women who were college educated, had household incomes equal or greater than the state median income, or were employed (full-time, part-time, or self employed) or full-time students were more likely to consume alcohol. Women who reported having had any same-sex partners (women only or both men and women

*Foreign-born Hispanics  
had the lowest  
prevalence of drinking.*

over their lifetime) were significantly more likely to be drinkers than women who reported having opposite-sex partners only.

### Acute Drinking and Past Year Reports of Drunkenness

Measures of heavier drinking occasions such as consuming five or more drinks on one occasion and frequency of drunkenness are strong predictors of social consequences, alcohol symptoms, and alcohol-related problems.<sup>5</sup> Younger age groups, such as 18-24-year-olds and 25-35-year-olds, were substantially more likely to report heavy drinking occasions, including drinking five or more drinks on a single occasion at least once in the past 30 days and being drunk at least twice in the past year. White women were more likely to report heavy drinking occasions than other race/ethnic groups. However, as with drinking prevalence, U.S.-born Hispanics were not significantly different than White women in relation to acute drinking (10.5 percent) or past drunkenness (18.5 percent) when analyzed separately from foreign-born Hispanics, who had the lowest prevalence of heavy drinking occasions. Never-married women also had higher prevalence rates of heavy drinking occasions compared with married/partnered or previously married women. Using a lifetime measure of primary sexual partners, women who reported having had same sex partners were significantly more likely to report being drunk in the past year, and bisexual women were most likely to report heavy drinking occasions in the past month compared with heterosexual women. In relation to employment status, heavier drinking occasions were most common among women who were employed or full-time students and least common among women who were retired or identified as homemakers. Although prevalence of heavier drinking was higher in the combined category of women with full-time work or status as full-time students, a separate analysis (not shown) revealed that students had the highest prevalence rates of both acute drinking in the past 30 days (16.8 percent) and being drunk twice or more in the past year (36.1 percent).

### Chronic Drinking

The consumption of 60 or more drinks on average per month is not assumed to be a proxy for problem or dependent drinking. There is some evidence that alcohol-related problems may appear at drinking levels that exceed an average of 60 drinks per month<sup>7</sup> and that this level exceeds low-risk drinking guidelines for women. Although research to determine thresholds beyond which drinking may become risky is still in progress, “moderate” drinking limits for women are generally described as drinking that would not exceed one or two drinks in one day, would not exceed more than seven drinks a week, and would include having at least one day each week when no alcohol is consumed.<sup>8-10</sup>

There were few significant differences among different groups of women in relation to chronic drinking (drinking an average of 60 drinks a month or more). Women in the youngest

age group (18-24 years of age) had significantly higher prevalence rates (over 2 percent) than all other age groups. It is notable that, although low, the prevalence for chronic drinking in women 65 years of age and older was not significantly different than women in the 25-34 or 35-44 year age groups. Never-married women were also more likely to report drinking at or over an average of 60 drinks per month.

### Alcohol and Pregnancy

Pregnant women were significantly more likely to abstain and less likely to engage in heavier drinking than women who were not pregnant. At the same time, approximately 12 percent of pregnant women reported consuming alcohol in the prior month and 2 percent engaged in acute drinking.

Analysis of the 1999 CWHs question related to knowledge about fetal alcohol syndrome (analysis not shown) revealed few differences by demographic groups. Overall, approximately 62 percent of respondents correctly identified fetal alcohol syndrome as associated with certain birth defects. Approximately 28 percent believed FAS meant that an infant was born addicted to alcohol, 3 percent believed that FAS

*28 percent believed fetal alcohol syndrome meant that an infant was born addicted to alcohol.*



indicated that an infant was born drunk, and about 7 percent did not know or were not sure about the definition of FAS. Although knowledge about FAS was fairly consistent across demographic groups, women 45 years of age and over were more likely to be incorrect or unable to respond to the question about FAS (40.8 percent) compared with women 18-45 years of age (31.8 percent). Among pregnant women, the correct response to the question about FAS was significantly higher among abstainers (86.4 percent) than drinkers (13.6 percent). Among women who were not pregnant, correct responses were more equally distributed across both abstainers (47.1 percent) and drinkers (52.9 percent).

## Discussion

Differences in drinking patterns by race/ethnicity, and age in the CWHs underscore the need for continuing to advance treatment, prevention, and early intervention efforts that are also tailored to meet the needs of different populations. Findings from the CWHs point to the need for continuing prevention and early intervention efforts with women in younger age groups. Leaders involved with these efforts have an opportunity to ensure that interventions reach diverse groups of women at risk for heavier drinking. Although the prevalence of heavier drinking measures is higher among youngest age groups, alcohol consumption that exceeds recommended limits (e.g., an average of 60 or more drinks per month) is associated with substantial health problems among older women and can be effectively addressed through brief interventions in health settings.<sup>12</sup> CWHs findings also suggest that the prevalence of drinking and heavier drinking among Hispanics born in the United States may be underestimated when data from this group are combined with that of foreign-born Hispanics who evidence lower rates on all drinking variables. Differences in subgroups of specific populations, such as Hispanic women and women with same sex partners, should be considered both in program development and future research.

Prevalence rates for drinking any alcoholic beverages or drinking five or more drinks on a single occasion (acute drinking) among pregnant women (12 percent

and 2 percent, respectively) from the California Women's Health Survey are similar to national data from the Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS found prevalence of any drinking among pregnant women was 11.4 percent in 1997 and 12.8 percent in 1999, while rates of acute drinking among pregnant women were 1.8 percent in 1997 and 2.7 percent in 1999.<sup>11</sup> Prenatal alcohol consumption is considered one of the leading preventable causes of birth defects; consequently, one of the national health objectives defined in Healthy People 2010 was to increase abstinence from any alcohol consumption among pregnant women to 94 percent and to increase abstinence from heavier drinking (five or more drinks on one or more occasions) to 100 percent.<sup>11</sup> Efforts to reduce drinking during pregnancy remain an important goal both statewide and nationally. Although women 45 years of age and older were more likely to be incorrect or unable to respond to the question about FAS in the 1999 CWHs, nearly one-third of women in the younger childbearing age group had inaccurate information about FAS.

The California Department of Alcohol and Drug Programs funds several specialized technical assistance and training projects designed to improve prevention and treatment for women and other specific populations, including older adults and different cultural groups. Technical assistance and training is also offered to help prevent alcohol-related problems among young people and through a variety of strategies aimed at promoting both individual and environmental changes, such as implementation of policies in local communities and colleges that reduce alcohol-related problems. CWHs findings would appear to support the importance of such projects. In addition, the CWHs findings can be used to facilitate increased collaboration between the California Department of Alcohol and Drug Programs and the California Department of Health Services. For example, screening combined with physician advice appears to be effective in decreasing alcohol use,<sup>13</sup> and several screening instruments have been shown to work in identifying alcohol problems in women.<sup>14, 15</sup> Collaborative planning between state agencies might be used to help promote improved screening for risky drinking in health settings, particularly for pregnant women and women of childbearing age.

**Table 3-1:**

**Patterns of alcohol consumption among demographic groups,  
California Women's Health Survey (CWHHS) 1997 – 2002 (combined)**

	<b>Any Alcohol Consumption, Past 30 days N=24,460 Percent (CI)</b>	<b>Chronic Drinking, Past 30 days N=23,804 Percent (CI)</b>	<b>Acute Drinking, Past 30 days N=24,578 Percent (CI)</b>	<b>Drunk Two or More Times Past year<sup>c</sup> N=16,161 Percent (CI)</b>
<b>Age<sup>a</sup></b>				
18-24	52.8 (51.1, 54.4)	2.3 (1.8, 2.8)	18.7 (17.4, 20.0)	35.5 (33.5, 37.4)
25-35	53.8 (51.6, 54.1)	1.3 (1.0, 1.5)	11.4 (10.6, 12.1)	24.6 (23.3, 26.0)
35-44	52.0 (50.7, 53.4)	1.2 (0.9, 1.5)	7.4 (6.7, 8.1)	16.1 (14.8, 17.3)
45-54	51.1 (49.4, 52.9)	1.7 (1.3, 2.2)	5.5 (4.7, 6.3)	9.9 (8.7, 11.2)
55-64	45.2 (43.3, 47.1)	1.7 (1.2, 2.2)	3.7 (3.0, 4.4)	4.3 (3.4, 5.3)
65+	39.4 (37.9, 40.1)	1.3 (0.9, 1.7)	1.1 (0.7, 1.4)	1.5 (1.0, 1.9)
<b>Race/Ethnicity<sup>a</sup></b>				
White	57.9 (57.1, 58.7)	1.9 (1.7, 2.1)	9.6 (9.2, 10.1)	19.8 (19.0, 20.6)
Black/African American	45.7 (43.3, 48.1)	1.1 (0.6, 1.7)	7.1 (5.9, 6.9)	14.9 (12.8, 17.0)
Hispanic	31.7 (30.4, 33.0)	0.7 (0.5, 0.9)	6.3 (5.6, 7.0)	9.9 (8.9, 10.9)
Other	36.5 (34.5, 38.4)	1.1 (0.7, 1.5)	5.5 (4.6, 6.4)	12.2 (10.6, 13.7)
<b>Marital Status<sup>a</sup></b>				
Married/Partnered	48.2 (4.7, 4.9)	1.2 (1.0, 1.3)	6.2 (5.8, 6.6)	13.3 (12.7, 14.1)
Previously Married	44.8 (43.5, 46.1)	1.6 (1.2, 1.9)	6.1 (5.5, 6.7)	10.9 (9.9, 12.1)
Never Married	58.7 (57.2, 60.1)	2.5 (2.0, 2.9)	17.7 (16.6, 18.8)	33.1 (31.5, 34.8)
<b>Education</b>				
High School or less	37.6 (36.6, 38.5)	1.5 (1.2, 1.7)	8.2 (7.7, 8.8)	13.7 (12.8, 14.5)
College or more	57.3 (56.5, 58.1)	1.5 (1.2, 1.7)	8.4 (8.0, 8.9)	18.4 (17.7, 19.2)
<b>Employment<sup>a</sup></b>				
Full time work/student	57.4 (56.4, 58.3)	1.6 (1.4, 1.8)	11.7 (11.0, 12.3)	24.7 (23.6, 25.7)
Part time/self-employed	54.6 (53.2, 56.0)	1.7 (1.4, 2.2)	9.8 (9.0, 10.7)	18.6 (17.2, 20.0)
Out of work	35.9 (34.0, 37.8)	1.2 (0.8, 1.6)	6.8 (5.8, 7.8)	11.9 (10.3, 13.4)
Unable to work	36.7 (35.2, 38.2)	0.9 (0.6, 1.2)	4.3 (3.7, 4.9)	7.4 (6.4, 8.4)
Homemaker / Retired	42.3 (40.7, 44.1)	1.8 (1.3, 2.2)	1.7 (1.3, 2.2)	2.2 (1.6, 2.9)
<b>Income<sup>b</sup></b>				
< Median income	42.8 (42.0, 43.6)	1.5 (1.3, 1.7)	8.4 (8.0, 8.9)	15.0 (14.3, 15.7)
≥ Median income	63.8 (63.8, 64.9)	1.5 (1.2, 1.8)	9.0 (8.4, 9.6)	21.1 (20.0, 22.1)
<b>Sexual Partners<sup>a</sup></b>				
Men only	50.3 (49.5, 51.2)	1.4 (1.3, 1.6)	8.6 (8.2, 9.1)	16.0 (15.5, 16.6)
Women only	67.8 (57.9, 77.8)	0.7 (0.1, 2.6)	5.9 (0.9, 10.9)	37.6 (27.3, 47.8)
Both men and women	63.6 (59.5, 67.7)	2.8 (1.4, 4.2)	19.4 (16.0, 22.8)	38.3 (34.1, 42.4)
<b>Pregnancy Status<sup>a</sup></b>				
Pregnant	12.3 (9.9, 14.7)	0.3 (0.1, 0.6)	2.0 (1.0, 3.0)	19.4 (15.8, 22.9)
Not Pregnant	54.6 (53.8, 55.3)	1.6 (1.4, 1.8)	11.8 (11.2, 12.2)	23.3 (22.4, 24.1)

Note: % = Prevalence; CI = confidence intervals

a Differences among subgroups are significant ( $p < .05$ ) across all alcohol consumption variables based on chi-square tests

b No differences among subgroups in relation to chronic drinking; differences among subgroups are significant ( $p < .05$ ) in relation to all other alcohol consumption variables based on chi-square tests

c Data are available for 1999-2002 only.

Source: California Women's Health Survey (CWHHS)

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## Prevalence of Dietary Supplement Use Among California Women

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### Introduction

Dietary supplements are a significant component of complementary and alternative medicine (CAM) in California. The federal Dietary Supplement and Health Education Act of 1994 defines dietary supplements as a product that bears or contains one or more of “a vitamin, a mineral, an herb or other botanical, an amino acid, a dietary substance for use by man to supplement the diet by increasing the total daily intake, or a concentrate, metabolite, constituent, extract, or combinations of these ingredients.”<sup>1</sup> National survey data indicate women are greater consumers of dietary supplements than men.<sup>2</sup> This chapter describes dietary supplement use, including the subset of herbs and other botanicals, among California women during 1998, and establishes a baseline to evaluate the impact of interventions targeting the use of specific dietary supplements that adversely affect women’s health. These data can be used to develop health education messages targeting specific groups of users, and to improve provider awareness of the use of dietary supplements among women.

The California Department of Health Services, Maternal, Child and Adolescent Health (MCAH)/Office of Family Planning (OFP) Branch is interested in dietary supplements because they are an integral part of the dietary assessment and education in MCAH/OFP Branch programs, especially in the Comprehensive Perinatal Services Program, the Black Infant Health Program, the California Diabetes and Pregnancy Program, and the Adolescent and Family Life Program. Other Primary Care and Family Health Division programs, the Office of Women’s Health, and the Food and Drug Branch share this interest.

### Background

In recent years, the use of dietary supplements has greatly increased.<sup>3</sup> However, manufacturers developing new dietary supplements do not need to show the Food and Drug Administration (FDA) a reasonable proof of safety.<sup>2</sup> Herbal supplements cause concern because of the variability in potency, potential incorrect labeling, unlabelled ingredients,<sup>4</sup> misidentified herbs, contamination of herbs, lack of rigorous scientific data on most herbs, and drug-supplement reactions.<sup>5</sup> Despite these concerns, healthcare providers may not ask women about their dietary supplement use. Of equal concern, many patients do not consult with their primary physician regarding their use of CAM, including dietary supplements.<sup>6</sup> Some women may not disclose their use, even when requested on a written questionnaire.<sup>7</sup> Women are more likely to rely on family and friends for herbal information,<sup>8</sup> and this herb use has led to a delay in some women seeking conventional treatment of symptoms.<sup>9</sup>

Dietary supplement use is of particular concern for pregnant women, and in 2000, the FDA framed final regulations on structure and function claims with this in mind. The FDA requested that dietary supplement manufacturers not make any claims related to pregnancy and urged all pregnant women to consult their health care provider before taking any dietary supplements or medication.<sup>10</sup> In addition to the FDA, numerous other professional organizations have recommended limiting the use of herbal supplements by women during pregnancy because the potential risks of most herbs in pregnancy have not been carefully examined.<sup>11, 12, 13</sup>

This analysis estimates the prevalence of self-reported dietary supplement use among California women, including the subset of herbal supplements, and to

compare demographic characteristics and health status of supplement users to supplement non-users.

the age and race/ethnicity distribution of the 1990 California population.

## Methods

In 1998, the survey included the questions, “Are you *CURRENTLY* taking multi-vitamins, prenatal vitamins, mineral or food supplements?” and “What vitamin, mineral and/or food supplements are you currently taking?” For the first question, the survey interviewers completed either “yes,” “no,” “don’t know/not sure,” or “refused.” For the second question, the interviewers were instructed not to read, but to record, if the response was: a multi- or prenatal vitamin, folic acid/folate, vitamin C supplement, iron supplement, body-building nutrition supplement, weight-loss drink, vitamin-fortified drinks, “don’t know/not sure,” “refused,” or specify if they took “other supplements.” The survey did not specifically ask about herbal supplements and mentions of them were recorded in “other” as a text answer by the interviewer. Supplement users were identified as women who reported taking multi-vitamins, prenatal vitamins, mineral supplements, and/or food supplements. Herb or other botanical

users were those who reported using supplements containing parts of a plant other than supplements identified as vitamins, minerals, body-building supplements, weight-loss drinks, and vitamin-fortified drinks. Multiple herb or other botanical users are a subset of dietary supplement users. Multiple herb or other botanical users were uniquely counted for the analysis and are also included in the dietary supplement count. Medications, such as aspirin and steroids, were not considered as a valid dietary supplement response.

Race/ethnicity was collapsed into “White” and “non-White,” and age was categorized as 18-44 years of age, and 45 years of age and older. All data analysis was performed using SAS (Statistical Analysis Software, version 8.0; SAS Institute, Cary, NC). Chi-square statistics were used to assess differences in proportions with statistical significance defined as  $p < 0.05$ . Standardized weights were used to adjust the age and race/ethnicity of the CWHs sample to

## Results

### Demographic characteristics and self-reported health status of California women using dietary supplements

In 1998, 2404 (59.5 percent) CWHs respondents reported using dietary supplements including 234 (5.8 percent) reporting a use of herbs or other botanicals, which is 9.7 percent of the dietary supplement users. After applying standardized weights, MCAH/OFP Branch estimated that in 1998, over 6 million California women over 18 years of age used dietary supplements, including over 600,000 who used herbs or other botanicals. Race and ethnic prevalence of dietary supplement and herb users, respectively were: White (66.8 percent, 7.5 percent) vs.

non-White (47.6 percent, 2.3 percent) and U.S.-born (63.6 percent, 6.4 percent) vs. foreign born (46.5 percent, 2.8 percent) (Table 4-1). Socio-economic prevalence of dietary supplement and herb users, respectively were: post-high school education (65.9 percent, 7.2 percent) vs. high

school or less (50.0 percent, 3.2 percent); above 200 percent federal poverty level (67.6 percent, 7.1 percent) vs. 200 percent or below (47.1 percent, 3.2 percent); 7.1 percent); insured (62.2 percent, 5.8 percent) vs. uninsured (45.2 percent, 4.3 percent); and married (62.5 percent, 5.9 percent) vs. unmarried. Age prevalence of dietary supplement and herb users, respectively were: 18-44 years of age (52.5 percent, 4.6 percent) vs. 45 years of age or older (70.0 percent, 56.3 percent, 5.2 percent). Finally, health prevalence of dietary supplement and herb users, respectively were: good health (61.5 percent, 5.9 percent) vs. poor health (48.6 percent, 3.4 percent) and good mental health (62.4 percent, 5.5 percent) vs. poor mental health (54.0 percent, 5.7 percent) (Table 4-1). Women who reported using dietary supplements, including herbs or other botanicals, were more likely to be 45 years of age or above, to be White, to have a post-high school education, to have a household income above 200 percent federal poverty level, to be insured, to be born in the United States, and to self-report good to excellent health. Additionally, women reporting

*Health care providers, such as physicians, nurses and registered dietitians should assess women’s dietary supplement intake for safety and learn more about dietary supplements.*



use of dietary supplements were more likely to be married and self-report their mental status as rarely or never overwhelmed; but these two indicators were not significantly more prevalent among users of herbs and other botanicals.

### Frequency of dietary supplements reported

Of the 2404 women reporting use of dietary supplements, the most frequent vitamins and minerals used were vitamin and/or mineral complex (70.4 percent), vitamin C (24.8 percent), calcium (20.8 percent), vitamin E (17.8 percent), B-complex (6.9 percent), iron (5.9 percent), folic acid (3.4 percent), zinc (2.6 percent), and vitamin A (2.4 percent). Of the same 2404 women reporting use of dietary supplements, the most frequent herbs or other botanicals used were combination and unspecified herb products (2.3 percent), garlic (2.0 percent), ginkgo biloba (1.5 percent), ginseng (1.4 percent), echinacea (1.2 percent), and St. John's wort (1.0 percent) (Table 4-2).

### Limitations

Use of individual supplements may be higher than reported in the 1998 CWHs. Using an open option format, the analysis for vitamin A from the 1998 CWHs showed 2.4 percent of women taking supplements recalled that they were taking vitamin A (Table 4-2). Using a closed option format, the analysis for a vitamin A intake specific question from the 1999 CWHs indicated 12.8 percent of all CWHs responders were taking vitamin A.

### Discussion

Women completing the 1998 CWHs reported a higher prevalence of dietary supplement use (60 percent) than in the third National Health and Nutrition Examination Survey, 1988-1994 (40 percent).<sup>14</sup> The 1998 CWHs descriptive data of women using dietary supplements are consistent with other surveys.<sup>8, 15, 16, 17, 18</sup>

The 1998-1999 Slone Survey reported the ten most commonly used vitamins and minerals for a past week by ambulatory women in the United States.<sup>19</sup> The 1998 CWHs findings are slightly different from those found in the Slone Survey because the 1998 CWHs included B-complex and iron in the top nine

vitamins and minerals responses but did not include magnesium. Vitamin A was in the top ten for both the 1998 CWHs and the Slone Survey. The Slone Survey reported 14 percent of respondents used herbal supplements in the week preceding completion of their survey, while the 1998 CWHs findings show 6 percent of women using herbs or other botanical supplements.

The most commonly reported herbs used are similar to those reported in other studies.<sup>20, 21</sup> The top six herbs reported (combination and unspecified herb products, garlic, ginkgo biloba, ginseng, echinacea, and St. John's wort) are potentially contraindicated, especially for pregnancy and lactation. The ingredients of combination herb products are unknown. Side-effects for ginkgo biloba, ginseng, echinacea, and St. John's wort include gastrointestinal discomfort, headache, menorrhagia, vaginal bleeding, mastalgia, drug interactions, and allergic reactions. Ginseng and St. John's wort have been considered inappropriate for use during pregnancy or lactation.<sup>22</sup>

Dietary supplement intake is common among women including women of childbearing age. Since women may not be aware that some dietary supplements may be linked to toxicity, seizures, death, spontaneous abortions, and birth defects, there is the potential for unintended consumption of harmful dietary supplements during pregnancy. Since more than 60 percent of pregnancies (40 percent of births) in California are unintended,<sup>23</sup> there is additional likelihood that women may take dietary supplements during their pregnancy before they know they are pregnant. Dietary supplements may augment the diet but are not a substitute for a healthy diet. Some vitamins and minerals may be recommended for perinatal women, such as iron during pregnancy<sup>24</sup> and folic acid for women of childbearing age.<sup>25</sup> Other vitamin and mineral supplements are not routinely recommended unless there is inadequate intake or absorption.<sup>26</sup> Vitamin A supplementation of 10,000 IUs or more during pregnancy has been associated with specific birth defects.<sup>27</sup> Unfortunately, the CWHs sample size was not robust enough to analyze dietary supplement use by pregnant women.

Health care providers such as physicians, nurses and registered dietitians should assess women's dietary supplement intake for safety and learn more facts about dietary supplements.<sup>28</sup> Health care providers should follow the American College of Obstetricians and Gynecologists (ACOG) recommendations regarding

direct questioning of women's dietary supplement intake.<sup>29</sup> Adverse events related to the use of dietary supplements should be reported to the FDA.<sup>30</sup> To

improve monitoring, surveys need consistent questions regarding women's use of potentially contraindicated dietary supplements.

**Table 4-1**

**Demographic characteristics and self-reported health status of  
California women using dietary supplements, 1998<sup>a</sup>**

Characteristic	Percent Dietary Supplement Users, including herb/botanical users N=2404	Percent Herb/Botanical Users N=234
<b>Age</b>		
18-44	52.5 <sup>b</sup>	4.6 <sup>b</sup>
45 & above	70.0	7.1
<b>Race/Ethnicity</b>		
White	66.8 <sup>b</sup>	7.5 <sup>b</sup>
Non-white	47.6	2.3
<b>Educational Level</b>		
Post high school	65.9 <sup>b</sup>	7.2 <sup>b</sup>
High school or less	50.0	3.2
<b>Household Income</b>		
>200% Federal poverty level	67.6 <sup>b</sup>	7.1 <sup>b</sup>
≤200% Federal poverty level	47.1	3.2
<b>Insurance Status</b>		
Insured	62.2 <sup>b</sup>	5.8 <sup>b</sup>
Uninsured	45.2	4.3
<b>Marital Status</b>		
Married	62.5 <sup>b</sup>	5.9
Unmarried	56.3	5.2
<b>Country of birth</b>		
USA	63.6 <sup>b</sup>	6.4 <sup>b</sup>
Other	46.5	2.8
<b>Self Reported Health Status</b>		
Excellent, very good, or good	61.5 <sup>b</sup>	5.9 <sup>b</sup>
Fair or poor	48.6	3.4
<b>Self Reported Mental Health Status</b>		
Overwhelmed rarely or never	62.4 <sup>b</sup>	5.5
Overwhelmed very often, often, or sometimes	54.0	5.7
<b>All CWHS responders (N=4007<sup>c</sup>)</b>	<b>59.5</b>	<b>5.8</b>

a All percents were weighted to represent all California women in 1990

b Chi-square test, P value equals <0.05

c 1 non-respondent is excluded

Source: California Women's Health Survey (CWHS)



**Table 4-2**

**Frequency of dietary supplements reported in the 1998 California Women's Health Survey<sup>a, b, c</sup>**  
(N=2404)

	N	Percent
<b>Vitamin/Mineral use</b>		
Vitamin/Mineral Complex	1909	79.4
Vitamin C	596	24.8
Calcium	501	20.8
Vitamin E	429	17.8
B-Complex	166	6.9
Iron	142	5.9
Folic Acid	81	3.4
Zinc	63	2.6
Vitamin A	57	2.4
<b>Herb or other botanical use</b>		
Combination/unspecific herb products	55	2.3
Garlic	48	2.0
Gingko biloba	36	1.5
Ginseng	33	1.4
Echinacea	29	1.2
St. John's wort	24	1.0

a Unweighted data,

b Percents shown for each vitamin or herb are independent; respondents can report more than one supplement so percents will not add up to 100%

c Other dietary supplement use that accounted for less than 2.4% of total reported supplements, excluding herbs and other botanicals, are not indicated.

Source: California Women's Health Survey (CWHS)

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# Sexual Behavior

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## CHAPTER 5

### Introduction

Certain sexual and other risk behaviors are associated with increased risk for sexually transmitted diseases (STDs), human immunodeficiency virus (HIV), and unintended pregnancies among women. Monitoring the prevalence of these behaviors and trends over time can assist in developing, implementing, and evaluating effective prevention and control strategies. To measure these risk behaviors among women in California, the California Women's Health Survey (CWSH) has collected behavioral data since 1997. The CWSH sexual behavior modules have included questions on the age at first sexual intercourse, number of sex partners, condom use, douching practice, and other STD and pregnancy-related risk behaviors.

### Methods

The following analyses are based on STD-related questions included on the CWSH from 1997 to 2001. All data were weighted to reflect the age and race/ethnic distribution of the 1990 California population and to account for selection probabilities. The following analyses were restricted to women 18 to 44 years of age. Significance testing was performed using Pearson chi-square tests, comparing overall differences. Question refusals and "don't know/not sure" responses (except where response was a choice) were set to missing and not included in the analyses. When comparing responses by racial/ethnic groups, data were age-adjusted.

### Age at First Sexual Intercourse

#### Background

Early onset of sexual activity is an important risk factor for unintended pregnancy and STDs, including HIV. Sexual risk behaviors are more common among teens with an earlier onset of sexual activity. This is consistent with the high prevalence of chlamydia and gonorrhea in this age group. Furthermore, sexual risk-taking in adolescence is often part of a wider spectrum of risk-taking behavior, including alcohol and drug use.<sup>1</sup> A younger age at first sex is not only related to increased sexual risk behavior at the current time but is also a predictor of future high risk sexual behavior.<sup>2</sup> In addition to increased risk of exposure to STDs, adolescent women who engage in sex are also more biologically susceptible to infection with STDs when they are exposed, due to factors such as cervical ectopy.<sup>3</sup> To determine age at first intercourse among California women, from 1997-2001 respondents were asked, "How old were you at the time of your first sexual intercourse experience?"

#### Results

Comparisons of median age of sexual debut across all years of the survey (1997-2001) show no overall trend. Across these years, most women experienced their first sexual experience at about 17 to 18 years of age. In 2001, one out of every four women 18 to 24 years of age reported having had their first sexual experience before the age of 16. Reported age at first sexual experience varied among the different age groups, 26.5 percent of young women (18 to 24 years of age) reported having their first sexual experience before the

age of 16 compared with women 25 to 34 years of age (20.0 percent) and women 35 to 44 years of age (15.6 percent) ( $p<.0001$ ) (Figure 5-1). Reported age at first sexual experience also varied by race/ethnicity; 23.4 percent of White women, 27.2 percent Black/African American women, 14.9 percent Hispanic women, and 10.6 percent of Asian/Other women reported having had their first sexual experience before the age of 16 ( $p<.0001$ ).

## Number of Male Sex Partners

### Background

Having more than one sexual partner within the previous 12-month period is associated with an increased risk for STDs and unintended pregnancy. This association may be due to increased risk of exposure to an infected partner or may be associated with other risk factors such as less consistent use of condoms and more high-risk partners.<sup>4,5</sup> To measure the number of partners women had in the preceding year, 1998 survey respondents were asked, "How many male sexual partners have you had in the last 12 months?"

### Results

The majority (83.1 percent) of women reported having only one sexual partner during the previous 12 months, and an additional 8.4 percent of women reported no partners during this time period. Overall, only a small percentage (8.6 percent) of women reported having two or more partners in the past 12 months. Age was strongly associated with having multiple partners in the previous year. Younger women were significantly more likely to report multiple partners than were older women; 18.6 percent of women 18-24 years of age reported multiple sexual partners in the preceding year, compared with 7.9 percent of women 25-34 years of age and 3.2 percent of women 35-44 years of age ( $p<.0001$ ) (Figure 5-2).

The proportion of women reporting having multiple partners varied by race/ethnicity. Fifteen (15.1) percent of Black/African American women reported having more than one partner in the previous 12 months, compared with 9.7 percent of White women, 7.8 percent of Asian/Other women and 5.2 percent of Hispanic women ( $p<.01$ ). Additionally, women who reported having two or more sexual partners in the previous year had an earlier mean age of first sexual experience (16.3 years; 95 percent CI=15.9-16.7 years), compared with women who reported having only one partner (17.9 years; 95 percent CI=17.8-18.1 years) or no partners in the past year (18.0 years; 95 percent CI=17.4-18.6 years).

## New Male Sexual Partners and Condom Use

### Background

Consistent and correct use of condoms and barrier contraceptives reduces the risk of STDs and unintended pregnancy. In 1998, 1999, and 2000 sexually active women were asked, "During the past 12 months, did you have a new male sexual\*

partner?" Those women who had a new sex partner in the previous year were also asked, "Did you use a condom when you had sex with that person for the first time?"

### Results

The proportion of sexually active women reporting a new sexual partner in the previous year was consistent across all years that the question was asked. In 2000, 15.2 percent of the sexually active women surveyed reported having a new partner in the past 12 months. For all years, younger women were more likely to have had a new partner during the past 12 months than were older women. In 2000, 32.0 percent of women 18 to 24 years of age reported having a new sexual partner in the previous 12 months, compared with 11.9 percent of women 25 to 34 years of age and 8.5 percent of women

*The proportion of women reporting condom use during first sex with a new partner was 68.4% in 2000.*

\* In 2000, the word *sexual* was replaced with the word *sex*.



35 to 44 years of age ( $p<.0001$ ). In 2000, White (18.6 percent) and Black/African American (16.3 percent) women were more likely to report having had a new sex partner in the past year compared with Hispanic (8.8 percent) women ( $p<.05$ ).

The proportion of women reporting condom use during first sex with a new partner did not change significantly from 1998 to 2000. In 2000, 68.4 percent of women reported condom use at first sex with a new partner (Figure 5-3). Condom use at first sex with new partners was not significantly different among the different age groups and race/ethnic groups.

## Communication with Partners about HIV/AIDS

### Background

The ability to communicate with sex partners facilitates practicing safer sex. In contrast, infrequent communication with sex partners about STDs and pregnancy prevention has been associated with lower odds of condom use.<sup>6,7</sup> In 1998 women who reported having a new sexual partner in the past year were asked, *“Thinking about your current or most recent sexual partner, which of the following statements best describes how you have talked about AIDS with that partner? Would you say... Never talked to your partner about AIDS, Mentioned AIDS once or twice but didn’t talk seriously, Talked seriously about your risks.”*

### Results

Only 51.5 percent of the women who had a new sex partner in the past year reported that they had talked seriously about the risk of AIDS with their most recent sex partner. A larger proportion of older women reported having discussed risks seriously with their most recent sex partner, though this difference was not statistically significant (Figure 5-4). Black/African American women were significantly more likely to discuss the risks of HIV/AIDS with their sexual

partners than were White and Hispanic women; 84.2 percent of Black/African American women who had a new partner reported having discussed AIDS seriously with their most recent sex partner as compared to 48.9 percent of White women, 45.5 percent of Hispanic women ( $p<.01$ ), and 42.7 percent of Asian/Other women ( $p<.01$ ).

## Douching

### Background

Vaginal douching has been associated with a number of reproductive health problems in women. Douching disrupts the vaginal flora and increases the risk for pelvic inflammatory disease, ectopic pregnancy, sexually transmitted infections including HIV, and bacterial vaginosis.<sup>8</sup> Research has found that many women believe douching is a good hygienic practice and that Black/African American women are more likely to believe this than White women.<sup>9</sup> Douching may also be associated with infections of the urinary tract. In 2001 women were asked, *“During the past 12 months, have you douched?”* Women answering “yes” were also asked, *“How often do you douche?”*

*Overall, only 51.5% of females seriously discussed the risks of HIV/AIDS with a new sex partner.*

### Results

In 2001, 25.5 percent of women reported that they douched at least once during the past 12 months. Sixty-six percent (66.4 percent) of these women reported having douched at least once a month. Overall, women 35 to 44 years of age (28.2 percent) were slightly more likely to report having douched in the past 12 months than were women 18 to 24 years of age (21.5 percent) ( $p<.05$ ) (Figure 5-5). Black/African American women (58.7 percent) were more likely to have douched in the past year than were women of other race/ethnic groups (White: 20.7 percent; Hispanic: 30.7 percent; Asian/Other: 15.9 percent;  $p<.0001$ ). Among women who reported having douched in the past year, 84.9 percent of Black/African American women reported douching at least once a month compared with 60.6 percent of White women,



64.4 percent of Hispanic women, and 69.3 percent of Asian/Other women ( $p < .01$ ).

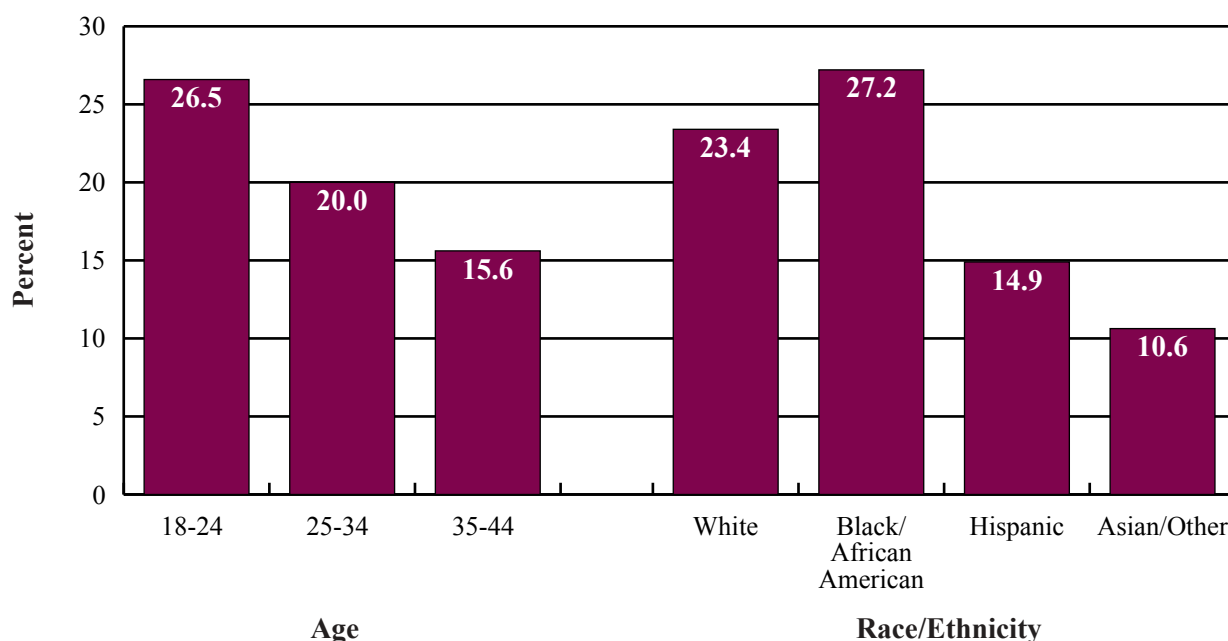
## Discussion

CWHS has provided valuable information about the status of sexual health behavior among adult California women. These data have shown that compared with older women, California women 18 to 24 years of age are at increased risk of STDs and HIV due to their sexual behavior, including young age at first sexual experience and having multiple partners. Furthermore, Black/African American California women are at increased risk for STDs and HIV and other reproductive health complications compared with other race/ethnic groups due to having multiple partners and douching behavior. However,

Black/African American women were significantly more likely to report that they had discussed the risks of HIV/AIDS with their sexual partner than were White and Hispanic women. These contrasts indicate that sexual risk behavior is complex and requires prevention messages and interventions that are tailored to the needs of specific population groups. Although it is encouraging that the rate and distribution of sexual risk behaviors has not increased between 1997 and 2001, the lack of change in these proportions over time suggests that behavioral interventions at the community and individual level are needed to effect change. The STD Control Branch will use this information to develop more targeted STD prevention programs. In addition, the Branch will continue to monitor the sexual risk behavior of California women to evaluate these new prevention programs and to identify other high-risk populations.

**Figure 5-1**

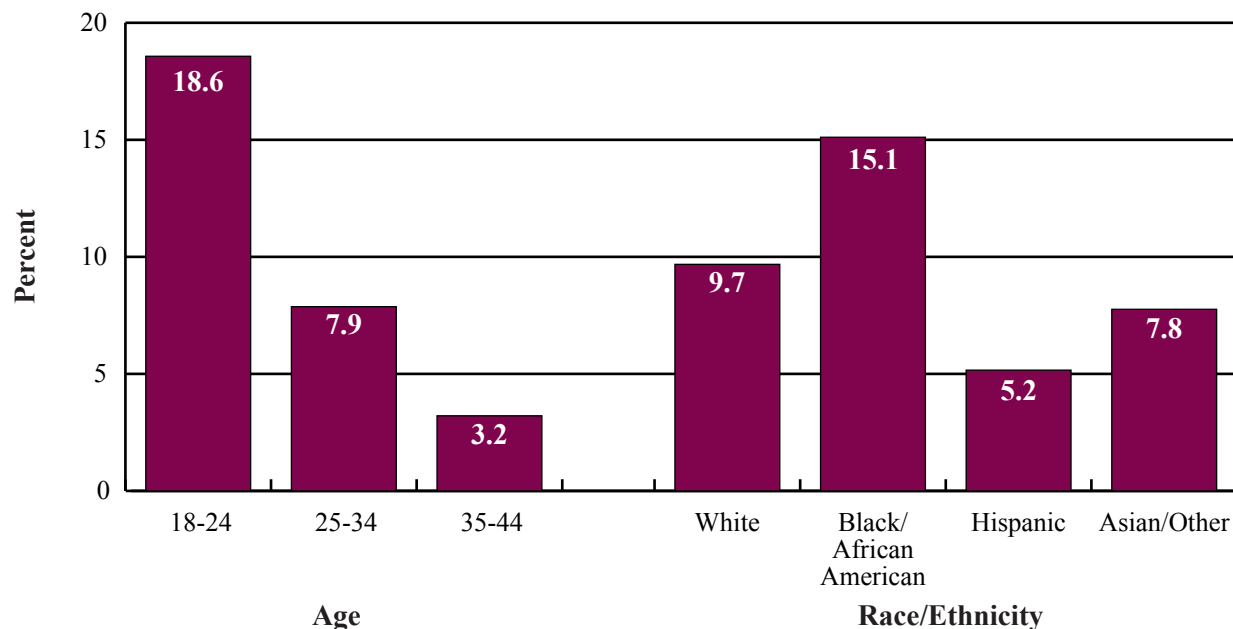
**Percent of California women who reported having sex before age 16, by age and race/ethnicity, 2001**



Source: California Women's Health Survey (CWHS).  
Prepared by: California Department of Health Services

**Figure 5-2**

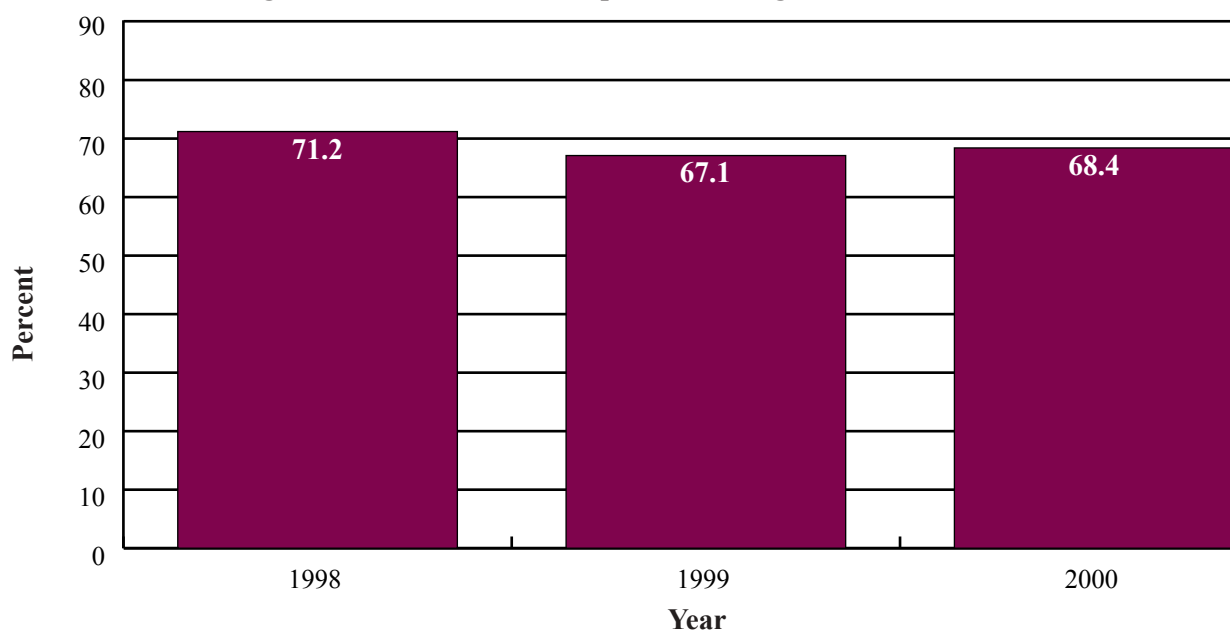
**Percent of California women who reported having two or more sexual partners in the past year, by age and race/ethnicity, 1998**



Source: California Women's Health Survey (CWHS).  
Prepared by: California Department of Health Services

**Figure 5-3**

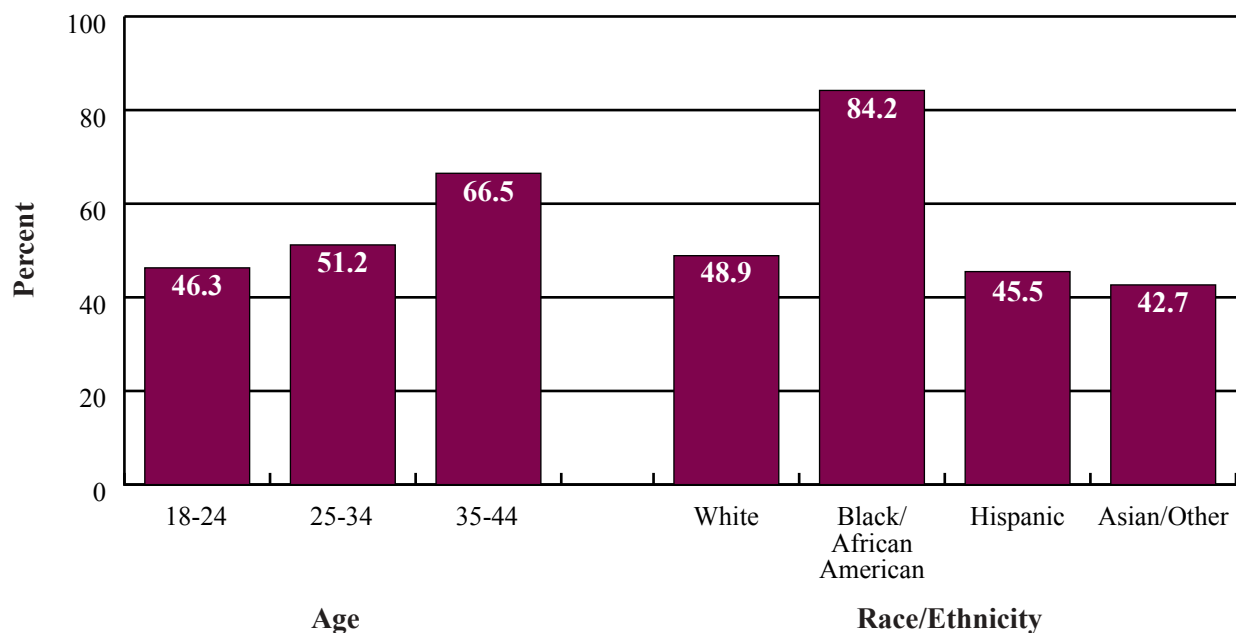
**Percent of California women with a new partner in the previous year who reported using a condom with their new partner during first sex, 1998-2000**



Source: California Women's Health Survey (CWHS).  
Prepared by: California Department of Health Services

**Figure 5-4**

**Percent of California women who had a new partner in the last year and reported that they had seriously discussed AIDS with their current or most recent partner, by age and race/ethnicity, 1998**

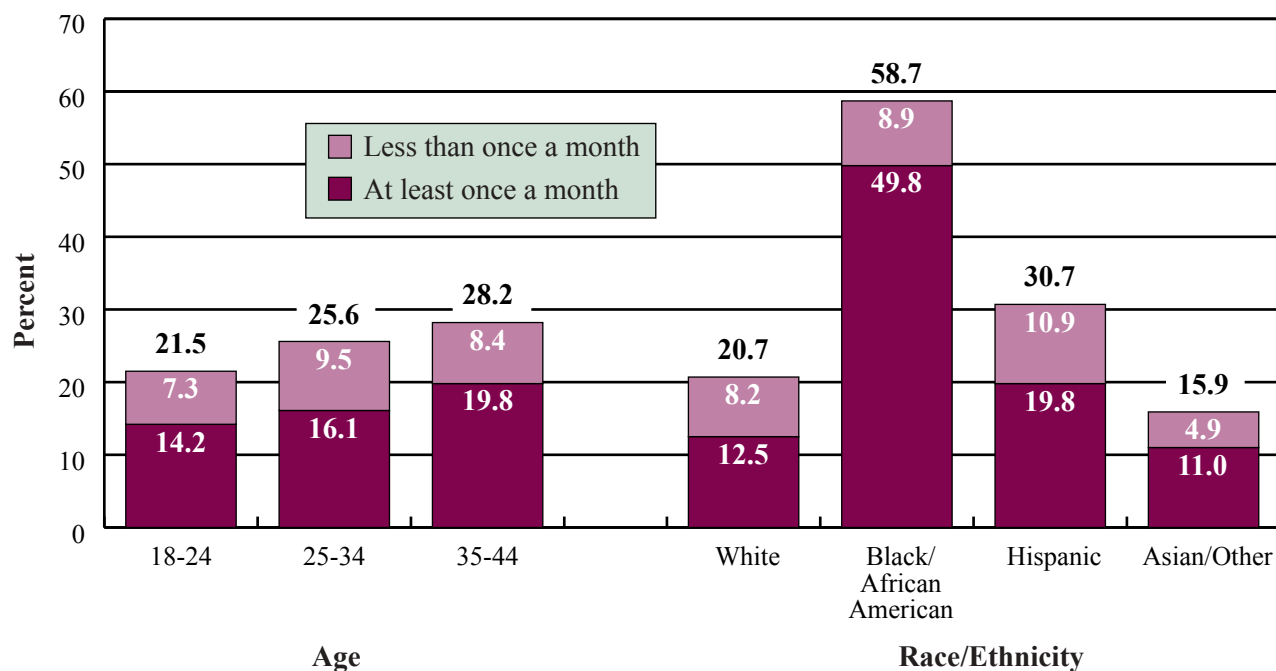


Source: California Women's Health Survey (CWHs).

Prepared by: California Department of Health Services

**Figure 5-5**

**Percent of California women who reported having douched in the past 12 months, by age group and race/ethnicity, 2001**



Source: California Women's Health Survey (CWHs).

Prepared by: California Department of Health Services

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# STD/HIV Knowledge, Care-Related Behaviors, and Morbidity

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## CHAPTER

# 6

### Introduction

Sexually transmitted diseases (STDs) are the most commonly reported communicable diseases in California, yet many people remain unaware of the risks and consequences of STDs. Although STDs affect all population groups, women are disproportionately affected by certain STDs; women are more biologically susceptible to STDs and more likely to have asymptomatic infections than men. Due to the asymptomatic nature of many STDs, these infections often go unrecognized and untreated, potentially resulting in serious long-term reproductive complications. The California Women's Health Survey (CWSH), in collaboration with the STD Control Branch and the Office of AIDS, explored key areas regarding STDs: knowledge about STDs, provider communication about sexual behavior, access to and utilization of STD-related services, and self-reported STDs.

### Methods

The following analyses are based on STD-related questions included on the CWSH from 1997 to 2001. All data were weighted to reflect the age and race/ethnicity distribution of the 1990 California population and to account for selection probabilities. The following analyses were restricted to women 18 to 44 years of age. Significance testing to compare proportions was performed using Pearson chi-square tests. Question refusals and "don't know/not sure" responses (except where this response was a choice) were set to missing and not included in the analyses.

When comparing responses by racial/ethnic groups, data were age-adjusted.

### Chlamydia Knowledge

#### Background

*Chlamydia trachomatis*, a predominantly asymptomatic STD, is the most commonly reported communicable disease in California. In 2001 alone, 101,871 cases of chlamydia were reported to the California Department of Health Services.<sup>1</sup> Untreated infections in women are associated with an increased risk of adverse reproductive health outcomes, such as pelvic inflammatory disease and infertility.

#### Results

In order to assess chlamydia awareness in California, in 1997, 2000, and 2001, sexually active\* women were asked, "Have you ever heard of chlamydia?" During this time period, the proportion of women who reported having heard of chlamydia increased significantly from 74.5 percent in 1997 to 82.4 percent in 2001 ( $p < .0001$ ). In 2001, as in past years, White and Black/African American women were more likely to report having heard of chlamydia than were Hispanic women and Asian/Other women (95.0 percent and 97.1 percent vs 55.5 percent and 69.5 percent, respectively;  $p < .0001$ ) (Figure 6-1). In 1997, younger women (18 to 24 years of age) were more likely to report having heard of chlamydia than were older women (35 to 44 years of age) (81.3 percent vs 70.7 percent;  $p < .0001$ ). However, in 2001 this

\* Sexually active is defined as having had sex in the past 12 months



difference in chlamydia awareness between younger and older women was less pronounced (85.6 percent vs 81.0 percent;  $p < .05$ ).

## Genital Herpes Knowledge

### Background

Genital herpes (HSV-2) is the most prevalent STD in the United States. The third National Health and Nutrition Examination Survey (NHANES 1999-2000) found a 17.6 percent seroprevalence of HSV-2 among persons over 12 years of age.<sup>2</sup> While the majority of people who have HSV-2 do not have noticeable symptoms, asymptomatic individuals can still shed the virus and infect others during sexual contact. To better characterize women's knowledge of genital herpes the following questions were asked on the 2001 CWS: "True or False: Most people with genital herpes know they have it"; and "True or False: Genital herpes can be transmitted even when there are no symptoms present."

### Results

Eighty-eight percent (88.0%) of the respondents answered correctly that genital herpes can be spread when there are no symptoms present. However, a smaller proportion (59.2 percent) of respondents reported correctly that most people with genital herpes are not aware of their infection. Younger women were more knowledgeable than older women about genital herpes (Figure 6-2). Ninety-two percent (91.7%) of 18- to 24-year-olds and 88.0 percent of 25- to 34-year-olds responded correctly that HSV-2 transmission can occur when symptoms are not present compared to 85.2 percent of women 35 to 44 years of age ( $p < .01$ ). Seventy percent (70.2%) of 18- to 24-year-olds and 61.6 percent of 25- to 34-year-olds correctly responded that most people infected with herpes do not know they are infected compared with 48.4 percent of women 35 to 44 years of age ( $p < .0001$ ).

The proportion of women responding correctly that genital herpes can be transmitted even when there are no symptoms present varied slightly among the different racial/ethnic subgroups (White: 86.0 percent; Black/African American: 91.3 percent; Hispanic: 89.8 percent; Asian/Other: 93.8 percent  $p < .01$ ) (Figure 4-2). White women (61.5 percent) and Black/African American women (65.3 percent) were more likely to respond correctly that most people with genital herpes do not know they are infected than were Hispanic women (52.6 percent) ( $p < .01$ ).

## Provider Communication about Sexual Behavior

### Background

Communication between patients and their health care provider is essential for providers to identify and address sexual behaviors that may place a person at risk for an STD and to appropriately test for STDs. Nevertheless, both patient and provider surveys have indicated that sexual risk assessments are not routinely conducted.<sup>3</sup> In order to gain a better understanding of patient-provider communication about sexual behavior in

California, in 1997 and 2002 women who reported having seen a doctor in the past year were asked, "During the past 12 months, did your\* doctor or other health care provider talk to you about your personal sexual behavior?"

### Results

The proportion of sexually active women who reported that their doctor discussed their sexual behavior with them increased between 1997 and 2002. In 1997, among women who reported having a sexual partner in the past year, only 13.7 percent reported discussing their sexual behavior with their doctor or provider in the preceding year, compared with 28.3 percent of women in 2002 ( $p < .0001$ ).

*Chlamydia awareness among women increased from 74.5% in 1997 to 82.4% in 2001.*

\* In 2002, the word *your* was replaced with the word *a*.

In 1997 and 2002, younger women (18 to 24 years of age) were significantly more likely to report discussing their sexual behavior with their doctor or provider than were older women (35 to 44 years of age) (1997: 22.6 percent vs 9.7 percent,  $p<.0001$ ; 2002: 40.2 percent vs 18.1 percent,  $p<.0001$ , respectively) (Figure 4-3). However, in 2002 more than half of sexually active women 18 to 24 years of age reported that they did not discuss sexual behavior with their provider in the past year.

## Chlamydia Testing

### Background

The majority of women with chlamydia have no symptoms or noticeable signs of infection and, therefore, may not seek testing, diagnosis, and treatment. If left undetected and untreated in women, chlamydia can lead to pelvic inflammatory disease, infertility, and ectopic pregnancy. Chlamydia can also put women at greater risk for acquiring and transmitting HIV. As a result, screening is a critical tool in controlling chlamydia. In 1993, the Centers for Disease Control and Prevention (CDC) began recommending routine screening of all sexually active adolescent girls (under 20 years of age) and young adult women (20 to 24 years of age) with at least one risk factor for chlamydia (a new partner, multiple sexual partners, or not consistently using barrier contraceptives). In 2002<sup>4</sup>, CDC expanded these guidelines to include screening for all sexually active young adult women (20 to 25 years of age) and older women with at least one risk factor for chlamydia. From 1999 through 2002, CWSHS respondents were asked, "Have you been tested for chlamydia during the past 12 months?" In 1999, 2000, and 2002, women were also asked, "Where did you get tested?"

### Results

Since 1999, the proportion of sexually active women reporting having had a chlamydia test in the preceding year has increased. Among sexually active women 18 to 24 years of age, the proportion reporting having

had a chlamydia test in the previous year increased from 37.9 percent in 1999 to 48.2 percent in 2002 ( $p<.01$ ) (Figure 4-4). The proportion of sexually active women 25 to 44 years of age who reported having a chlamydia test also increased from 16.4 percent in 1999 to 22.8 percent in 2002 ( $p<.0001$ ). Overall in 2002, 28.4 percent of sexually active women reported having had a chlamydia test in the previous 12 months.

Across all years that women were asked the place of testing (1999, 2000, and 2001), there was no

significant trend in where women reported having a chlamydia test. For all years, the majority of women reported having been tested for chlamydia at a private doctor's office or health maintenance organization (HMO). In 2002, 67.6 percent of all women who reported having had a chlamydia test in the last year reported that the test was performed at private office or HMO (Table

4-1). In contrast, only 12.3 percent of women reported testing at a public clinic. Younger women (18 to 24 years of age) were more likely than older women (25 to 44 years of age) to report having been tested at a facility other than a private doctor's office or HMO ( $p<.0001$ ).

*Among sexually active women aged 18 to 24 years, the proportion reporting having a chlamydia test in the past year increased from 37.9% in 1999 to 48.2% in 2002.*

## HIV Testing

### Background

The proportion of new AIDS cases diagnosed among women in California has increased every year since 1983.<sup>5</sup> Persons infected with HIV may be infected for as long as a decade before having any symptoms. Because of the potentially lengthy time period between HIV infection and symptoms, it is important that persons at risk for HIV infection are tested regardless of their symptom status. People who know they are HIV infected can be treated before symptoms appear, monitored for changes in their condition, and take the necessary precautions to avoid spreading the disease. To learn more about HIV testing among California women, 1997 CWSHS respondents were asked, "Have

*you ever had your blood tested for HIV? What was the main reason you had your last blood test for HIV?” and “What is the main reason you have not had your blood tested for HIV?”*

## Results

In 1997, 56.0 percent of women 18 to 44 years of age reported ever having been tested for HIV. The proportion of women tested for HIV varied by age group and race/ethnicity. Women 25 to 34 years of age were more likely than either women 18 to 24 years of age or women 35 to 44 years of age to have had an HIV test (64.3 percent compared with 49.2 percent and 50.9 percent, respectively;  $p<.0001$ ) (Figure 4–5). Seventy-five percent (74.8%) of Black/African American women reported having had an HIV test compared with 56.6 percent of Whites, 50.5 percent of Hispanics, and 52.4 percent of Asian/Other ( $p<.0001$ ).

Among those tested, the most frequently reported reason for having an HIV test was pregnancy (27.6 percent). The majority (80.6 percent) of women who had not had an HIV test cited not being in a high-risk group as their main reason for not being tested. Of those women who said that they were not tested because they were not in a high-risk group, 3.4 percent had two or more male partners in the past year.

## STD Morbidity

### Background

To characterize the prevalence of STDs among the general population of women in California, in 1997 CWSH survey respondents were asked, “*During the past 12 months, have you been told by a doctor or other health care provider that you have a sexually transmitted disease? What did the doctor or other health care provider tell you it was?*” and, in 1999, “*Have you ever been told by your health care provider that you have genital herpes?*”

### Results

In 1997, a small proportion of women (1.9 percent) 18 to 44 years of age reported having been told that

they had an STD in the last year. Among the women reporting an STD in the last year, the most commonly reported diagnosis was chlamydia (32.7 percent). Women who reported having been diagnosed with an STD in the previous year had a lower mean age of first sexual experience (16.5 years; 95 percent CI=15.7-17.3) compared with women who did not report having an STD diagnosis in the past year (17.7 years; 95 percent CI=17.5-17.9).

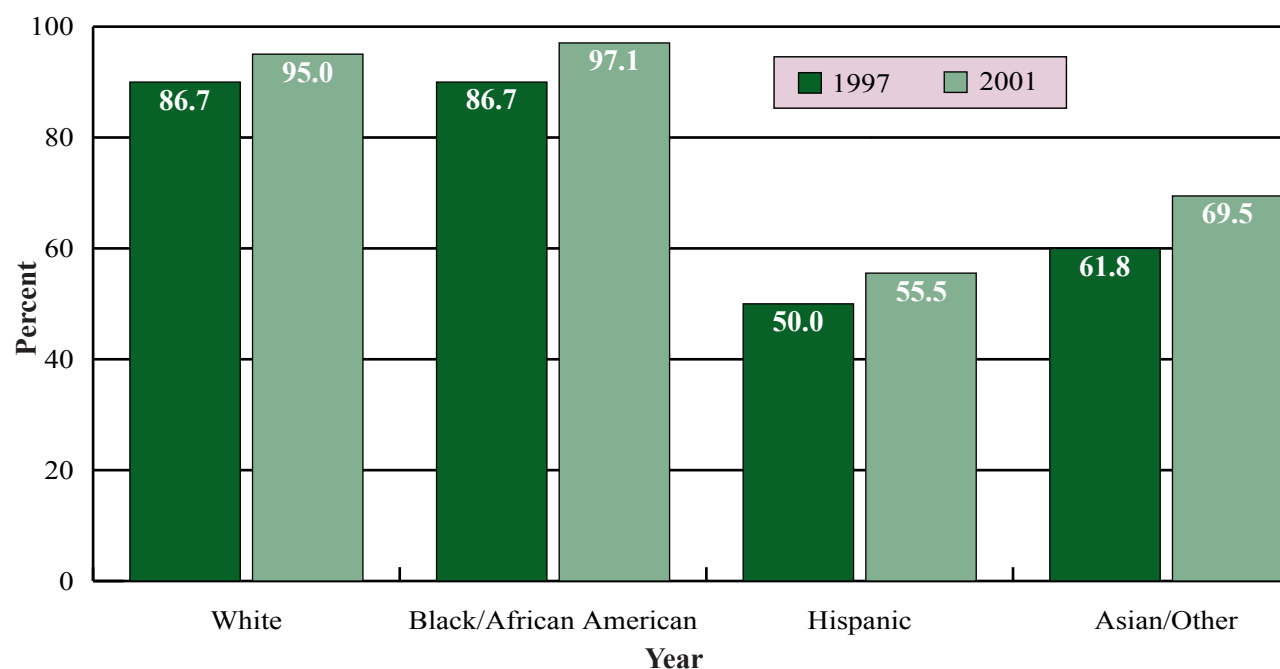
In 1999, 4.3 percent of women reported that they had ever been diagnosed with genital herpes (Table 4–2). Older women were more likely to report ever having been diagnosed with herpes. Six percent (5.7%) of women 35 to 44 years of age reported a genital herpes diagnosis compared with 1.5 percent of women 18 to 24 years of age ( $p<.0001$ ). Reported herpes diagnosis also varied among racial/ethnic subgroups (White: 5.3 percent; Black: 2.3 percent; Hispanic: 2.6 percent; and Asian/Other: 4.0 percent; ( $p<.05$ ). Women reporting a new male sex partner in the past year were also more likely to have ever been told they had genital herpes (7.7 percent compared with 4.1 percent;  $p<0.01$ ).

## Discussion

CWSH provides valuable information about sexual behavior and STD health care among the general population of women in California. The data from this report indicate many women still lack knowledge about chlamydia and genital herpes—diseases that affect a large proportion of California women. Consistent with other studies, CWSH also found that a large proportion of women reported that their providers do not discuss sexual behavior with them. Risk assessment is essential for identifying women appropriate for STD and HIV screening, prevention counseling, and referral. The low prevalence of provider communication with patients about sexual behavior is consistent with the finding of low levels of chlamydia testing among young adult women (18 to 24 years of age). These findings underscore the need for continued education about STDs and for increased awareness about the importance of provider-patient communication as an important STD control strategy.

**Figure 6-1**

**Percent of sexually active California women who have heard  
of chlamydia by race/ethnicity, 1997 and 2001**

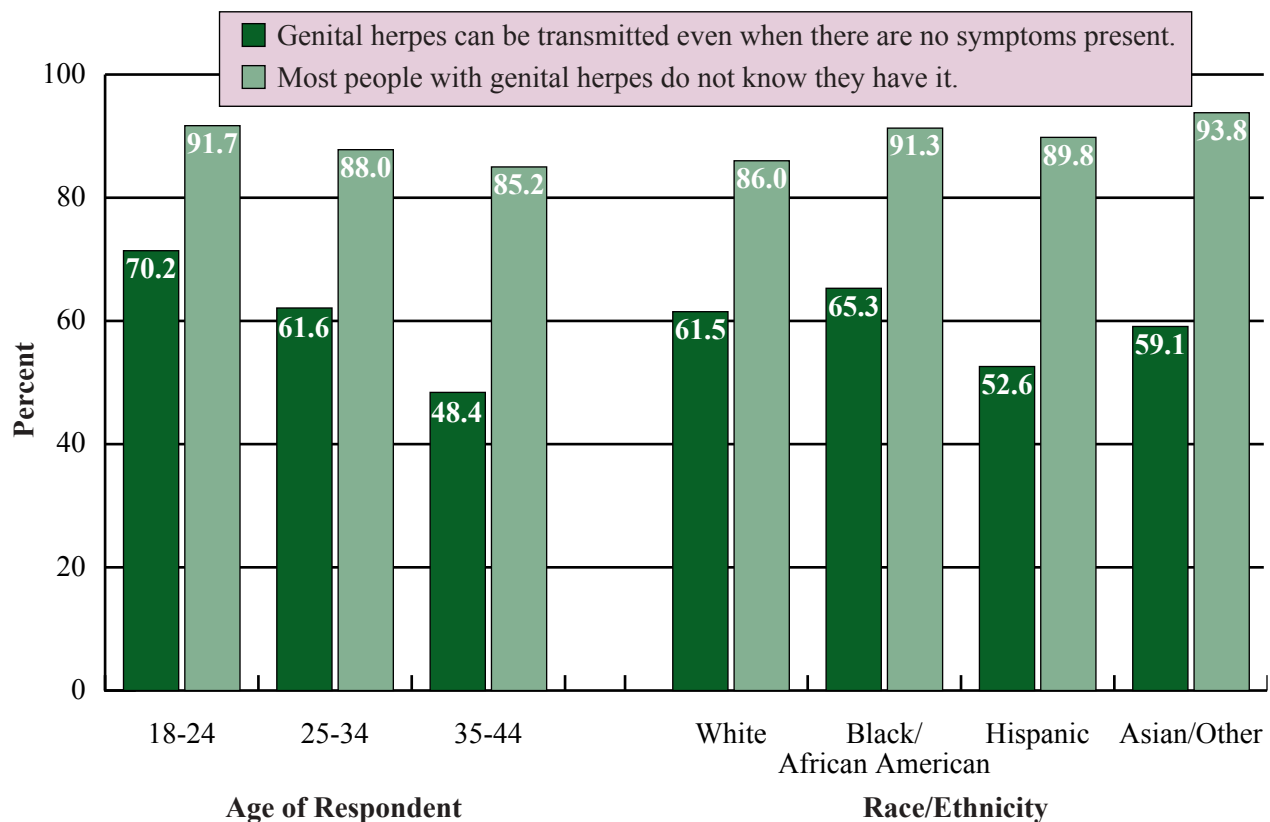


Source: California Women's Health Survey (CWHS).

Prepared by the California Department of Health Services

**Figure 6-2**

**Percent of California women aged 18 to 44 who responded correctly to herpes knowledge questions, by age group and race/ethnicity, 2001**

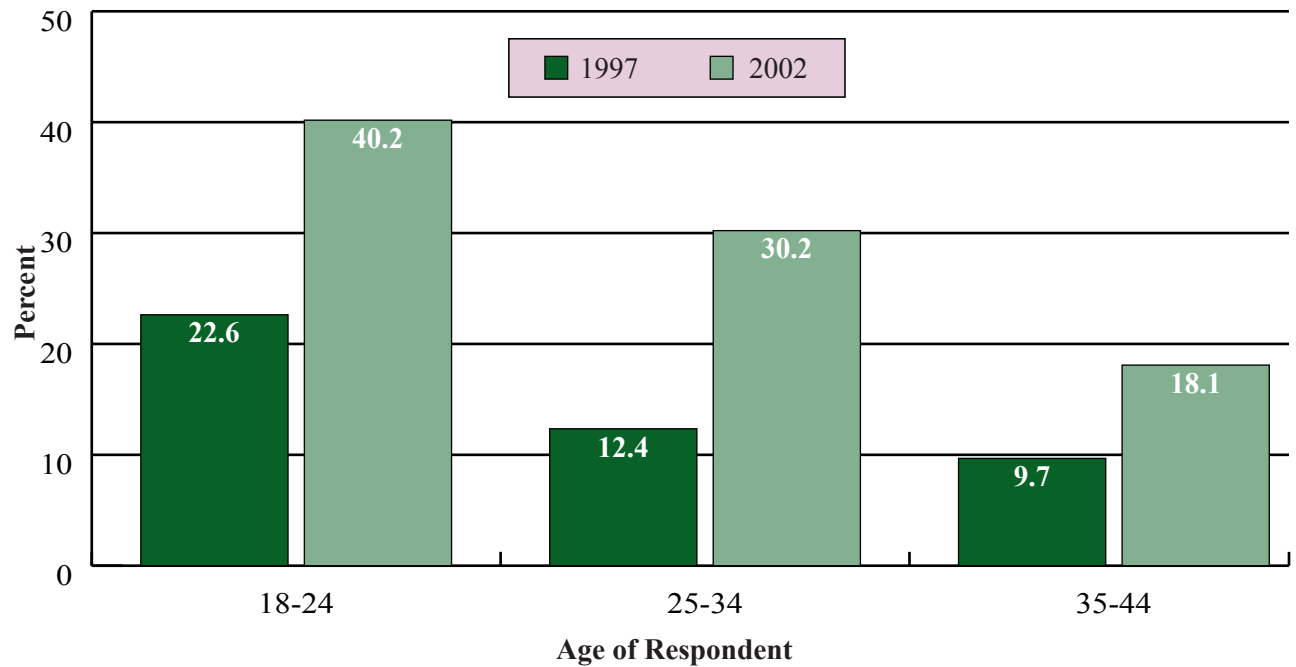


Source: California Women's Health Survey (CWHS).

Prepared by the California Department of Health Services

**Figure 6-3**

**Percent of sexually active California women who saw a provider in the previous 12 months and reported discussing their sexual behavior with their doctor or provider, by age, 1997 and 2002**

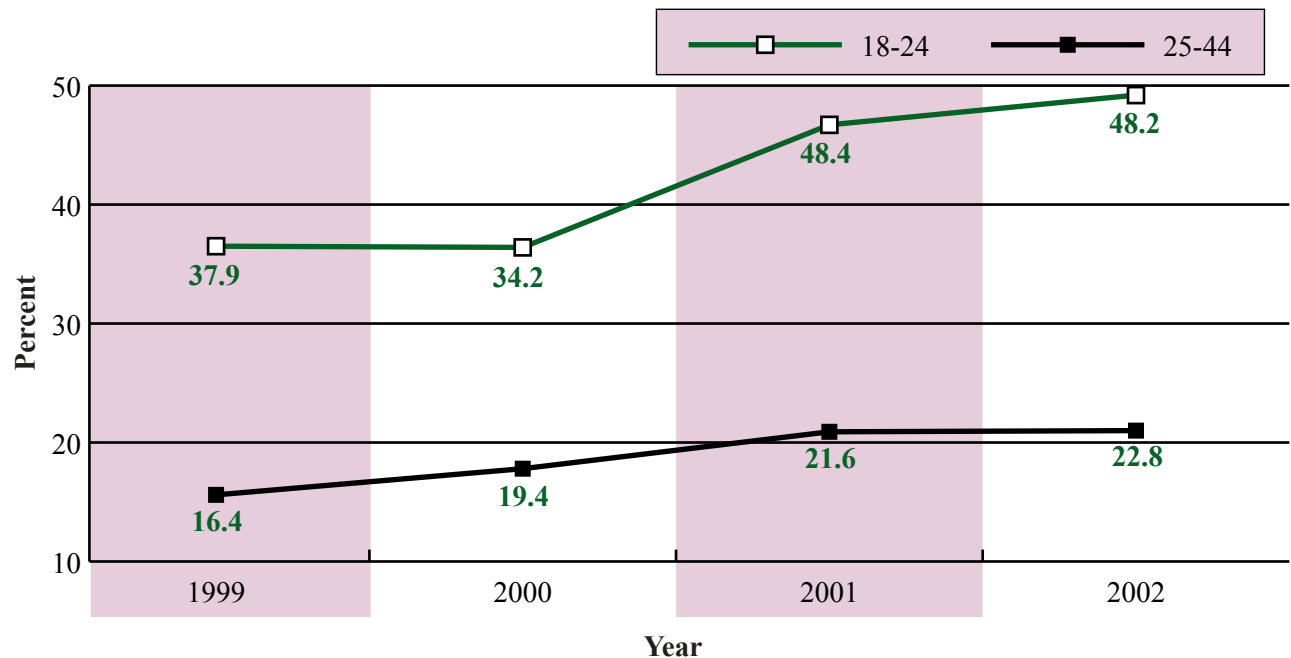


Source: California Women's Health Survey (CWHS).

Prepared by the California Department of Health Services

**Figure 6-4**

**Percent of sexually active California women tested for chlamydia by age group, 1999-2002**



Source: California Women's Health Survey (CWHS).

Prepared by the California Department of Health Services



**Table 6-1**

**Percent of California women who reported having a chlamydia test in the previous 12 months by reported place of testing, by age and race/ethnicity, 2002**

Where did you get tested?	Age		Race/Ethnicity				
	18-24	25-44	White	Black/ African American	Hispanic	Asian/Other	Total
Family Planning Clinic	15.9	10.3	11.4	10.1	17.0	12.2	<b>12.4</b>
Private Doctor or HMO	59.6	72.5	72.3	64.5	57.9	64.7	<b>67.6</b>
Public Facility <sup>a</sup>	15.9	10.2	8.2	14.5	20.6	17.4	<b>12.3</b>
Other	8.6	7.1	8.2	10.4	4.5	5.6	<b>7.7</b>

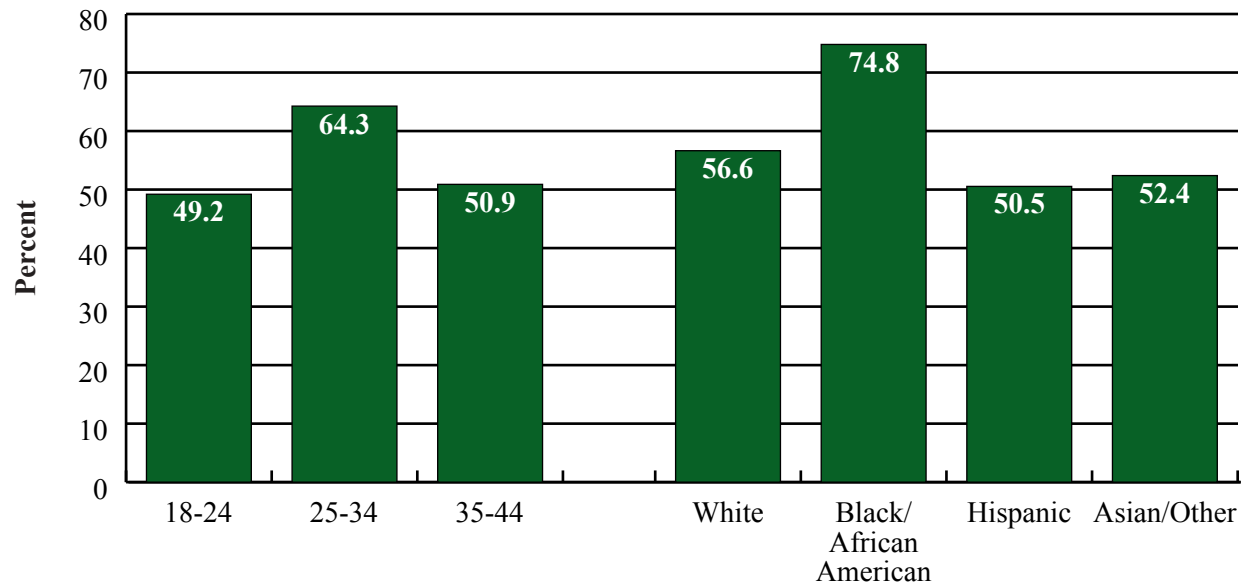
a Public facilities include public STD clinics, community clinics and other publicly funded settings.

Source: California Women's Health Survey (CWHs).

Prepared by the California Department of Health Services

**Figure 6-5**

**Percent of California women aged 18 to 44 who reported ever having an HIV test, by age and race/ethnicity, 1997**



Source: California Women's Health Survey (CWHs).

Prepared by the California Department of Health Services

**Table 6-2**

**Percent of California women aged 18 to 44 who have ever been diagnosed with genital herpes, by age and race/ethnicity, 1999**

	Age			Race/Ethnicity				
	18-24	25-34	35-44	White	Black/ African American	Hispanic	Asian/Other	<i>Total</i>
Diagnosed with Herpes	1.5	4.8	5.7	5.3	2.3	2.6	4.0	<b>4.3</b>

Source: California Women's Health Survey (CWHs).

Prepared by the California Department of Health Services

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# Contraceptive Use and Risk for Unintended Pregnancy among Women in California

## Results from the 1998-2001 California Women's Health Surveys

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## CHAPTER 7

### Introduction

Recent trends in the population profile of California indicate that the State will continue to experience dramatic growth, particularly in the younger population. In this context, access to family planning services is vital to the health and future of California. Currently, one-quarter of the State's population is under age 15.<sup>1</sup> In the first ten years of this century, California's population is expected to grow by 15 percent (from 34 million in 2000 to 39 million by 2010).<sup>2</sup> Although some of this population increase will result from immigration, most will be due to births to California residents – more than 6 million births are projected over this time period.<sup>3</sup>

For these reasons, since 1998, the Office of Family Planning has used the California Women's Health Survey (CWSH) to investigate key aspects of fertility and family planning. Areas of study in the CWSH include age at first intercourse, current pregnancy status, pregnancy intentions, use of family planning, knowledge of emergency contraception, access to family planning, and infertility. This chapter focuses on a few of these areas. The first analyses present the percentage of California women at risk for unintended pregnancy. Later analyses show the types of contraceptive methods being used by women who are at risk for an unintended pregnancy.

### Methodology

Data for these analyses are drawn from the 1998-2001 CWSH. To increase the sample size for estimates by relevant subgroups, data from these four years were

pooled into a single sample. The pooled-year sample was restricted to 8913 women of reproductive age (age 18-44). Weights from the yearly surveys were not applied to the aggregate sample; the analytic sample was weighted to reflect the age and ethnic distribution of the female California population according to the 1990 Census.

Multiple survey items were used to identify which women were at risk for an unintended pregnancy. Women were considered to be at risk of unintended pregnancy if they were sexually active, had not had a hysterectomy and were neither pregnant, postpartum, seeking pregnancy, infertile, nor sterilized. Women were determined not to be sexually active if they reported that they had not had sex in the 12 months before the interview. To establish current pregnancy status and pregnancy intentions, women aged 18-44 were asked, "To your knowledge, are you now pregnant?" If they answered no, respondents were asked, "Are you currently trying to become pregnant?" Women were determined to be postpartum if the date of their last birth was within three months of the interview date. Infertility was assessed through responses to the questions, "In the past, have you ever tried for more than 12 months to get pregnant and weren't successful?" and "Have you ever been told by a doctor or other health professional that you were infertile?"

The 1998-2001 CWSH did not contain questions that were intended to identify menopausal respondents. Therefore, menopausal women were identified through a question asked of women not currently using birth control: "What is the MAIN reason that you are not CURRENTLY using birth control?" Women who provided responses related to age or menopause

were classified as menopausal. A comparison of this approach to the 1997 CWS, in which data relating to both menopause and reasons for non-use of birth control are available, suggests that the approach used for these analyses adequately captures the menopausal population.

Respondents' use of family planning methods were ascertained through two questions. The first asked whether respondents were using any method of birth control: "Are you or your male sex partner using a birth control method to prevent pregnancy? This includes male or female sterilization." The second question addressed type of method for respondents who were using birth control: "Which birth control method or methods are you using?" Although respondents were allowed to indicate all of the methods they use, only the most effective method was used in these analyses. The birth control methods, in order of effectiveness, are intrauterine device, implant, injectables (e.g., Depo-Provera), oral contraceptives, diaphragms, cervical caps, male condoms, female condoms, spermicides alone, natural family planning, and withdrawal.<sup>4</sup> Sterilization is not included in this list of methods because sterilized women are not considered to be at risk for an unintended pregnancy.

Since family planning and fertility patterns differ by race/ethnicity, selected analyses in this chapter are reported by race/ethnic categories. Women were grouped into one of six categories: White (non-Hispanic), Hispanic, Black/African American, North Asian, South/Southeast Asian, and other. We split the Asian population into two groups because we suspected that contraceptive use and access to care varied greatly within the Asian population. Women of Korean, Chinese, and Japanese backgrounds were classified as North Asian. South/Southeast Asian women include Filipina, Vietnamese, Cambodian, Laotian, East Indian, and Indonesian women. American Indians, Pacific Islanders, and all others are included in the "other" group. Differences between age and ethnic group were tested with an Analysis of Variance (ANOVA) test.

## Results

### Risk for unintended pregnancy in California

Approximately one in two women (51 percent) aged 18-44 in California are not at risk for unintended pregnancy (see Figure 1). Eight percent of women of reproductive age are infertile due to infertility, menopause, or a prior hysterectomy. Fifteen percent of women have not been sexually active with a male partner in the past year, and 11 percent are pregnant, post-partum, or seeking pregnancy. Seventeen percent of women of reproductive age have been sterilized (7.2 percent) or have partners who have been sterilized (9.4 percent) see Figure 7-1.

*Approximately half of women aged 18-44 in California are at risk for unintended pregnancy.*

The remaining half of the female population aged 18-44 in California is considered to be at risk of unintended pregnancy. Forty-one percent of women are using reversible methods of contraception, including barrier methods, natural family planning, or withdrawal (16 percent for these three methods), oral contraceptives (19 percent), and long acting methods such as intrauterine devices (IUDs), implants, or injectable hormones (6 percent). Eight percent of women are at risk of an unintended pregnancy but are not using any method of contraception.

### Types of contraception used by women at risk for an unintended pregnancy

Oral contraception is the most common form of birth control for women at risk for an unintended pregnancy (39 percent), followed by male condoms (28 percent) (see Table 7-1). Only 7 percent of women reported using an injectable birth control method. Fewer than 5 percent of women were using each of the remaining methods, including IUD, implant, spermicides alone, and withdrawal or periodic abstinence. Approximately 17 percent of women at risk for an unintended pregnancy were using no method of contraception.

As shown in Table 7-1, contraceptive use among women at risk for an unintended pregnancy varies

substantially by age. Women in their twenties and early thirties have the highest rates of oral contraceptive use, with 43-45 percent of women aged 20-35 using this method of family planning. Oral contraceptive use declines for older women. Thirty-two percent of women aged 35-39 and 22 percent of women aged 40-44 use oral contraception as their method of family planning.

The male condom is widely used, although women in all but the oldest age category are more likely to use oral contraception than condoms (see Table 7-1). By age group, approximately one-quarter to one-third of women use male condoms as their primary method of birth control. Younger women reported using injectable contraceptives somewhat more frequently than older women. The remaining, less-frequently used methods do not seem to vary substantially with a woman's age, although sample sizes may be too small to detect real differences. Older women appear less likely to be using contraception than younger women. Approximately one-fifth of women aged 35-39 and almost one-third of women aged 40-44 reported no contraceptive use. Women in their prime reproductive years (ages 20-35) were most likely to be using a method of contraception if they were at risk for an unintended pregnancy.

Contraceptive use by women of reproductive age who are at risk for an unintended pregnancy also differs significantly by race/ethnicity (see Table 7-2). White non-Hispanic women are more likely to be using oral contraception than women of other race/ethnic groups (46 percent vs 23-33 percent). Oral contraception is the most commonly used method of birth control for both white and Hispanic women. Male condoms are the second-most widely used method for these women: 26 percent of women in both groups. Asian and Black/African American women who are at risk for an unintended pregnancy are more likely than Whites or Hispanics to rely on male condoms as their primary method. Black/African American women are about as likely to use male condoms (32 percent) and oral contraceptives (31 percent), while male condoms are

used more frequently than oral contraception by North Asian women (41 vs. 28 percent) and South/Southeast Asian women (34 vs. 23 percent).

Hispanic and Black/African American women who are at risk for an unintended pregnancy have higher rates of injectable method use than other women (11 percent compared to 5 percent or less among women in other groups). Few women of any race/ethnic category used the remaining types of contraception. As

shown in Table 7-2, South/Southeast Asian women have the highest rates of non-use of contraception among all California women at risk for an unintended pregnancy. Approximately 30 percent of South/Southeast Asian women report not using any method, compared to

18-20 percent of Hispanic, Black/African American, and North Asian women and 13 percent of White women.

*Approximately 17 percent of California women at risk for an unintended pregnancy are using no method of contraception.*

## Discussion

Results from this study suggest that approximately half of California's women aged 18-44 are not at risk for an unintended pregnancy. Although some women who are pregnant may not have planned their pregnancies, women are not currently at risk for an unintended pregnancy if they are pregnant or postpartum, seeking pregnancy, infecund, sterilized (or have a sterilized partner), or are not sexually active.

Among women who are at risk for an unintended pregnancy, those using reversible methods of contraception may still be at risk of pregnancy due to method misuse or failure. Use of contraception varies by both age and race/ethnicity. Oral contraception is the most widely used method of family planning for women of most ages, followed by the male condom. There is greater variability in method use by race/ethnicity. White and Hispanic women use oral contraception more frequently than condoms. However, Black/African American and Asian women are more likely to use male condoms than oral contraceptives. Women of all ages and race/ethnic categories used other methods of contraception much less frequently.



Contraceptive Use and Risk for Unintended Pregnancy among Women in California, Results from the 1998-2001 California Women's Health Surveys

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This report also shows that a substantial fraction (17 percent) of women at risk of unintended pregnancies are not using any method of contraception. These women have particularly high risk of an unintended pregnancy. Although the state birthrate declined during the 1990s, the rate remains higher than the national average.<sup>5,6</sup> The state does not collect or report abortion data. Nationally, 31 percent of all births and two-thirds of births to teens are unintended.<sup>7</sup> These findings suggest that continued effort must be made to further reduce unintended pregnancies and increase access to family planning services.

Although these analyses used a pooled sample of four years of CWSHS survey data, the small number of women in for some sub-categories may limit some conclusions from this study. This is particularly true for analyses of contraceptive methods used, since results for less commonly used methods relied on

small numbers of women.

These analyses are based on a survey of women's health and therefore, do not reflect the need for family planning services among men. However, there is wide recognition of the importance of male partners in initiating and sustaining the use of effective contraceptive methods.

Findings from this report suggest that women in California remain in need of expansion of access to family planning. Many women are not at risk for an unintended pregnancy. However, those who are at risk may not be using a highly effective method of contraception or, indeed, any method at all. Women's use of effective methods of family planning is important for preventing unintended pregnancies and supporting their overall reproductive health.

**Table 7-1:**

**Method of contraception used by California women at risk of an unintended pregnancy, by age group<sup>a</sup>**

Method of Contraception	Woman's Age at Interview						Total
	18-19	20-24	25-29	30-34	35-39	40-44	
IUD	2%	2%	4%	5%	7%	5%	4%
Implant	0%	1%	1%	1%	0%	0%	1%
Injectable	9%	11%	8%	6%	3%	1%	7%
Oral contraceptives	37%	45%	44%	43%	32%	22%	39%
Diaphragm/cervical cap	0%	1%	1%	1%	3%	6%	2%
Male condom	33%	27%	25%	28%	29%	30%	28%
Spermicides	1%	0%	0%	1%	1%	1%	1%
Withdrawal/periodic abstinence	0%	2%	2%	3%	4%	5%	2%
No method	17%	12%	16%	13%	21%	30%	17%
Total	100%	100%	100%	100%	100%	100%	100%
N	333	946	1053	979	623	419	4353
P value*	0.058	0.134	0.869	reference	0.000	0.000	

Source: California Women's Health Survey, 1998-2001. Data are weighted to reflect the age and ethnic distribution of the female California population according to the 1990 U.S. Census.

a Analysis excludes women not at risk for an unintended pregnancy. Women are considered to be at risk of unintended pregnancy if they are sexually active, have not had a hysterectomy and are neither pregnant, postpartum, seeking pregnancy, infertile, nor sterilized.

\* Probability value derived from analysis of variance (ANOVA) test. P values less than 0.05 indicate a significant difference from the reference group.

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**Table 7-2:**

**Method of contraception used by California women at risk of an unintended pregnancy aged 18-44, by race/ethnicity<sup>a</sup>**

Method of Contraception	White non-Hispanic	Hispanic	Black/African American	N. Asian	S/SE Asian	Other	Total
IUD	3%	6%	3%	7%	2%	2%	4%
Implant	0%	2%	1%	0%	0%	2%	1%
Injectable	5%	11%	11%	0%	4%	5%	7%
Oral contraceptives	46%	33%	31%	28%	23%	29%	39%
Diaphragm/cervical cap	3%	1%	0%	0%	0%	0%	2%
Male condom	26%	26%	32%	41%	34%	34%	28%
Spermicides	1%	0%	2%	0%	0%	0%	1%
Withdrawal/periodic abstinence	2%	2%	1%	4%	8%	3%	2%
No method	13%	19%	18%	20%	30%	25%	17%
Total	100%	100%	100%	100%	100%	100%	100%
N	2345	1173	333	165	186	152	4353
P Value*	reference	0.007	0.012	0.000	0.000	0.000	0.000

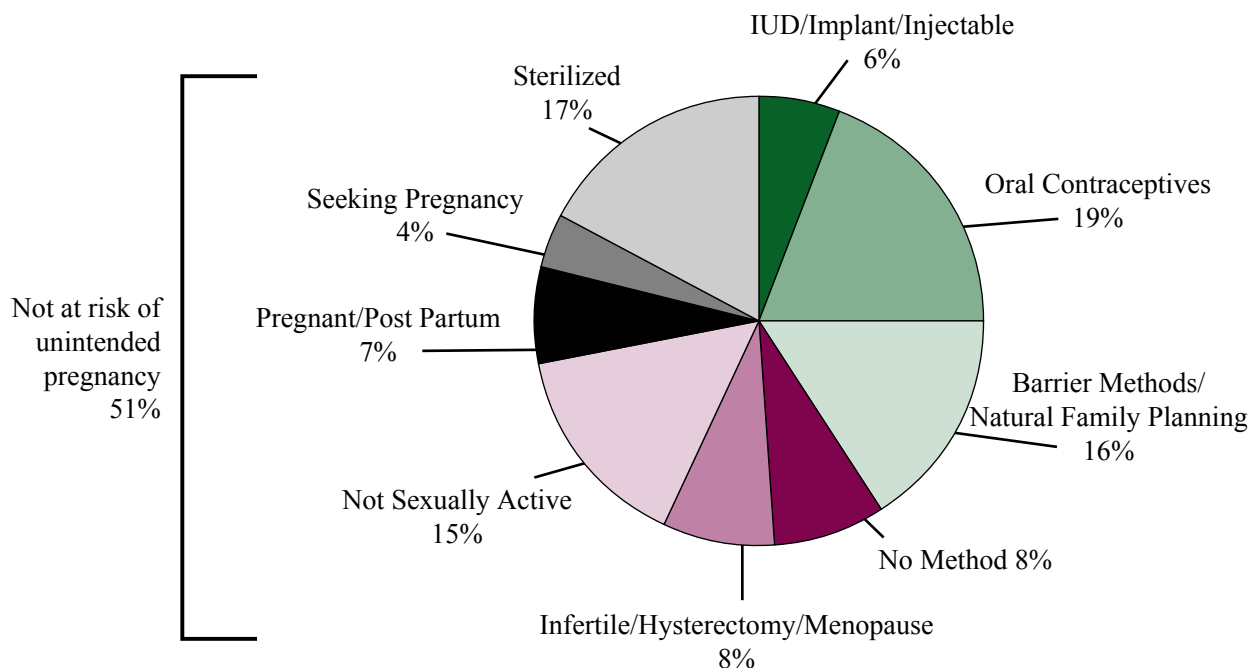
Source: California Women's Health Survey, 1998-2001. Data are weighted to reflect the age and ethnic distribution of the female California population according to the 1990 U.S. Census.

a Analysis excludes women not at risk for an unintended pregnancy. Women are considered to be at risk of unintended pregnancy if they are sexually active, have not had a hysterectomy and are neither pregnant, postpartum, seeking pregnancy, infertile, nor sterilized.

\* Probability value derived from analysis of variance (ANOVA) test. P values less than 0.05 indicate a significant difference from the reference group.

**Figure 7-1:**

**Risk for pregnancy and contraceptive use among women aged 18-44 in California**



Source: California Women's Health Survey, 1998-2001. N=8,913

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# Folic Acid Awareness and Intake among California Women Aged 18-44: Findings from the California Women's Health Survey, 1997-2002

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## CHAPTER

# 8

### Introduction

Folic acid is a B-vitamin necessary for proper cell growth. Folic acid is the form of folate that is found in supplements and added to fortified foods.<sup>1</sup> Folic acid is approximately twice as bioavailable as naturally occurring food folate. Folic acid helps to prevent birth defects, and ongoing research indicates other benefits. These include lowering homocysteine levels in the blood, which can help prevent cardiovascular disease, breast cancer, cervical dysplasia, and colon cancer, and may help prevent Alzheimer's disease.<sup>2, 3, 4, 5</sup>

Birth defects are the leading cause of infant mortality and greatly contribute to childhood morbidity and disability. Neural tube defects (NTDs) are disabling birth defects that include spina bifida and anencephaly. Spina bifida is a serious birth defect in which the spine does not form properly, leaving an opening in the spine and exposing the spinal cord to possible damage. The neurological damage and mobility impairments—including paralysis and weakness of the lower extremities—can create a challenge for everyday activities and educational attainment. The lifetime cost for medical treatment, educational services, and lost productivity for those with spina bifida is hundreds of thousands of dollars a year.<sup>6</sup> Anencephaly is a fatal condition in which the skull fails to develop properly. The brain either never completely develops or is totally absent. Pregnancies affected by anencephaly often result in miscarriages, and infants who are born alive die very soon after birth.<sup>7</sup>

Although the cause of most birth defects is unknown, the majority (up to 70 percent) of NTDs can be prevented if all women of childbearing age consume an adequate

amount of folic acid prior to time of conception.<sup>7</sup> Four hundred micrograms of folic acid (vitamin B9) consumed every day provides this adequate amount of folic acid. Four hundred micrograms is also the recommended daily allowance (RDA) for folate. The RDA is the average daily dietary nutrient intake level sufficient to meet the nutrient requirement of nearly all (97 to 98 percent) healthy individuals in a particular life stage and gender group recommended by the Institute of Medicine.<sup>8</sup> Folic acid should be consumed prior to pregnancy as NTDs develop within the first 12 weeks of pregnancy.

Beginning in the mid-1990s, the California Department of Health Services (CDHS) has partnered with the March of Dimes (MOD) and the California Birth Defects Monitoring Program in promoting folic acid intake by women of reproductive age. CDHS participating programs include the Maternal, Child and Adolescent Health/Office of Family Planning Branch (MCAH/OFP), in collaboration with the Genetic Disease Branch (GDB), and the Women, Infants and Children Supplemental Nutrition Branch (WIC).

From 1993-1999, MCAH/OFP disseminated English and Spanish folic acid pamphlets developed by the Texas Department of Health. In 1999, English and Spanish folic acid pamphlets and posters were developed under the leadership of MCAH/OFP. They were further revised in 2002 and CDHS and MOD continue to distribute them. MCH/OFP programs, specifically the California Diabetes and Pregnancy, the Comprehensive Perinatal Services, and the Adolescent and Family Life Programs have developed and distributed supportive program-specific folic acid education materials and guidelines. Health care providers working with women of childbearing age

also use these materials. Since 1998, "Your Future Together," a GDB-produced booklet given to couples obtaining a marriage license, has included information on folic acid. In addition, the National Folic Acid campaign began in 1999, but reduced its intensity in 2002. In conjunction with the national campaign, between 2000 and 2004, the California Folic Acid Council (CFAC) used state data on neural tube defects and folic acid to plan interventions.

In 2001—2004, MCAH shared with CFAC preliminary findings from the California Women's Health Survey (CWHS) regarding folic acid awareness and intake. CFAC has used these data to develop its own public education efforts, including informational slides that show in movie theaters prior to the coming attractions.

## Background

Approximately 1 in 1,460 babies born in California is affected by NTDs, and it is estimated that many more babies die before birth due to these defects. NTDs are more common in Hispanic infants, particularly if mothers are born outside the United States.<sup>6</sup> Not only are the NTD rates dramatically higher for Hispanics, but Hispanics comprise 50 percent of all births in California.<sup>9</sup> Both of these statistics demonstrate a tremendous need to provide folic acid resources and education to this population.

Maternal intake of folic acid prior to and in the first months of pregnancy is vital to prevent NTDs and other birth defects such as cleft lips and palates and some congenital heart defects.<sup>7</sup> Since more than 60 percent of pregnancies in California are unplanned, folic acid is recommended for all women of childbearing age.<sup>10</sup> Although folate is found in foods such as dried beans, orange juice, spinach, and broccoli, most women fail to consume enough of these foods to obtain and maintain adequate levels of folic acid. The synthetic form of folate is called folic acid. It is found in vitamin supplements and fortified cereals and other grain products.<sup>11</sup> A woman's body can use synthetic

folic acid more efficiently, and the amount consumed is of known quantity. Therefore, in 1998, the Institute of Medicine (IOM) recommended that all women capable of becoming pregnant should consume 400 micrograms of synthetic folic acid daily, in addition to eating food folate from a varied diet to reduce the risk of birth defects.<sup>12</sup> This IOM Report recommends an increase of folic acid equivalents to 600 micrograms a day once pregnancy is confirmed.<sup>12</sup>

The Healthy People 2010 Objective 16-16 is "increase the proportion of pregnancies begun with an optimum folic acid level." The 16-16a target is 80 percent for "consumption of at least 400 micrograms of folic acid each day from fortified foods or dietary supplements by nonpregnant women aged 15 to 44 years."<sup>13</sup> It is not yet possible to measure the intake of synthetic folic acids from foods in California; the best proxy measure is to ask women if they are taking a folic acid or multivitamin supplement.

A MOD-funded survey among U.S. women of childbearing age (18-45) shows an increase in awareness of folic acid from 52 percent in 1995 to 79 percent in 2003. Ten percent of surveyed women know that, to be effective, folic acid must be consumed

before pregnancy, up from only two percent in 1995. Only 32 percent of surveyed women reported taking a folic acid supplement. Most surveyed women (89 percent) who do not currently take any vitamins or mineral supplements on a daily basis report they would be likely to take a daily vitamin if advised to do so by their physician or other healthcare provider.<sup>14</sup>

## Methods

The California Women's Health Survey (CWHS) has asked various questions related to folic acid since 1997. The questions addressed in this report are:

1. "Have you heard or read anything about folic acid or folate?" (1997-2000)

*Educating physicians on the importance of advising their patients to consume folic acid would be an effective intervention for reaching Hispanics.*



2. "Where did you learn about folic acid? (multiple responses allowed)" (1998-2000)
3. "Are you currently taking multivitamins or prenatal vitamins?" and "Other than your prenatal or multi vitamins, are you currently taking a pill containing the B vitamin folate or folic acid?" (2000-2001) These two questions were combined as "Are you CURRENTLY taking a prenatal or multi vitamin pill or a pill containing the vitamin folate or folic acid?" with the addition of "Do you take any of these on a daily basis?" (2002)
4. "Consuming foods with adequate levels of folic acid has been shown to reduce the risk of birth defects in newborn infants. Would knowing that some cereals had 100% of the daily amount of folic acid in one serving increase your likelihood of purchasing the cereal? Would you say not at all, somewhat, or very likely?" (2001). In 2002, the question was shortened to "Would knowing that some cereals had 100% of the daily amount of folic acid in one serving increase your likelihood of purchasing the cereal?"

We analyzed responses to these questions for women of childbearing age (18 through 44 years). The analyses cited here include weighted frequencies. Chi square tests were used for the statistical analyses.

## Results

### Awareness of folic acid or folate

Awareness of folic acid did not significantly change between 1997 and 1998. However, the level of awareness exhibited a statistically significant increase between 1998 and 1999, and again in 2000 ( $p < .001$ ). This increase in awareness occurred among women in all categories of education, health insurance, and race/ethnicity (Table 8-1).

Increased awareness from 1997 to 2000, was most notable among Hispanics, for whom awareness increased from 28.6 percent in 1997 to 42.1 percent in 2000 ( $p < .001$ ). Nevertheless, even in 2000 there continued to be a large, statistically significant gap in folic acid awareness between Hispanics and other racial/ethnic groups ( $p < .001$ ).

### Source of folic acid information

Among the 66.2 percent of women who had heard of folic acid in 2000, newspapers/magazines were the most commonly cited source of this information (40 percent). The second most commonly reported source was physicians (22 percent), followed by television (21 percent), and friends and family, books, brochures in doctor's offices, and school (9 percent each) (Table 8-2).

Between 1998 and 2000, the proportion of Hispanics reporting that they received folic acid information from physicians increased from 18.2 percent to 27.9 percent. During the same time period, newspapers and magazines decreased as a source of folic acid information for Hispanic women (33.5 percent to 24.3 percent), while television increased (20.9 percent to 23.3 percent). All of these differences are statistically significant ( $p < .05$ ) (Figure 8-1).

### Folic acid intake

The proportion of respondents reporting taking a supplement containing folic acid remained steady at 55 percent from 1999 to 2001, but decreased significantly to 50 percent in 2002 ( $p < .05$ ).

Some population subgroups were less likely than others to take folic acid (Table 8-3). Women of lower socioeconomic status were less likely to take folic acid, as were younger women, non-White women, and women who did not have a primary care physician. However, those who were pregnant or were trying to get pregnant were more likely than others to be taking folic acid.

Overall, 90 percent of pregnant women and 57 percent of those trying to get pregnant reported taking folic acid in 2002. But again, non-White women were much less likely to be taking this supplement than White women, both when pregnant (84 percent for non-Whites vs. 98 percent for Whites) and when trying to get pregnant (47 percent for non-Whites vs. 71 percent for Whites) (data are not shown).

The CWHS data indicate that Hispanics were consistently less likely than non-Hispanics to consume multivitamins, prenatal vitamins, or supplements containing folic acid/folate (in 1999, 2000, 2001 and 2002). In each year, just over a third



of Hispanic women reported taking folic acid in some form, compared with 50 percent of non-Hispanic women.

### **Likelihood of purchasing cereal because it contained 100% daily amount of folic acid**

In 2002, 29 percent of the women who did not take supplements indicated that they would be very likely to eat cereal if they knew that a serving contained 100 percent of the RDA of folic acid.

## **Discussion**

This report provides a first look at trends in California women's awareness and intake of folic acid. Among women of childbearing age in California, awareness of folic acid increased between 1997-2000 (from 57 percent to 66.2 percent). This positive trend corresponds to a MOD report that awareness of folic acid nationally increased from 52 percent in 1995 to 79 percent in 2003.

From 1999-2001, the percent of women of childbearing age in California who reported taking folic acid supplements remained steady (55 percent). In 2002, folic acid use dropped to 50 percent ( $p < .05$ ). However, these results are notably higher than the results of the MOD national survey that showed that 32 percent of U.S. women between the ages of 18 and 45 took folic acid supplements in 2003.

California women overall reported that magazines

and television combined were the main source of information about folic acid. Hispanic women, however, cited physicians as their primary source of folic acid information. This finding suggests that educating physicians on the importance of advising their patients to consume folic acid would be an effective intervention for reaching Hispanic women. This is especially important because Hispanic women consistently report lower knowledge and use of folic acid than other women.

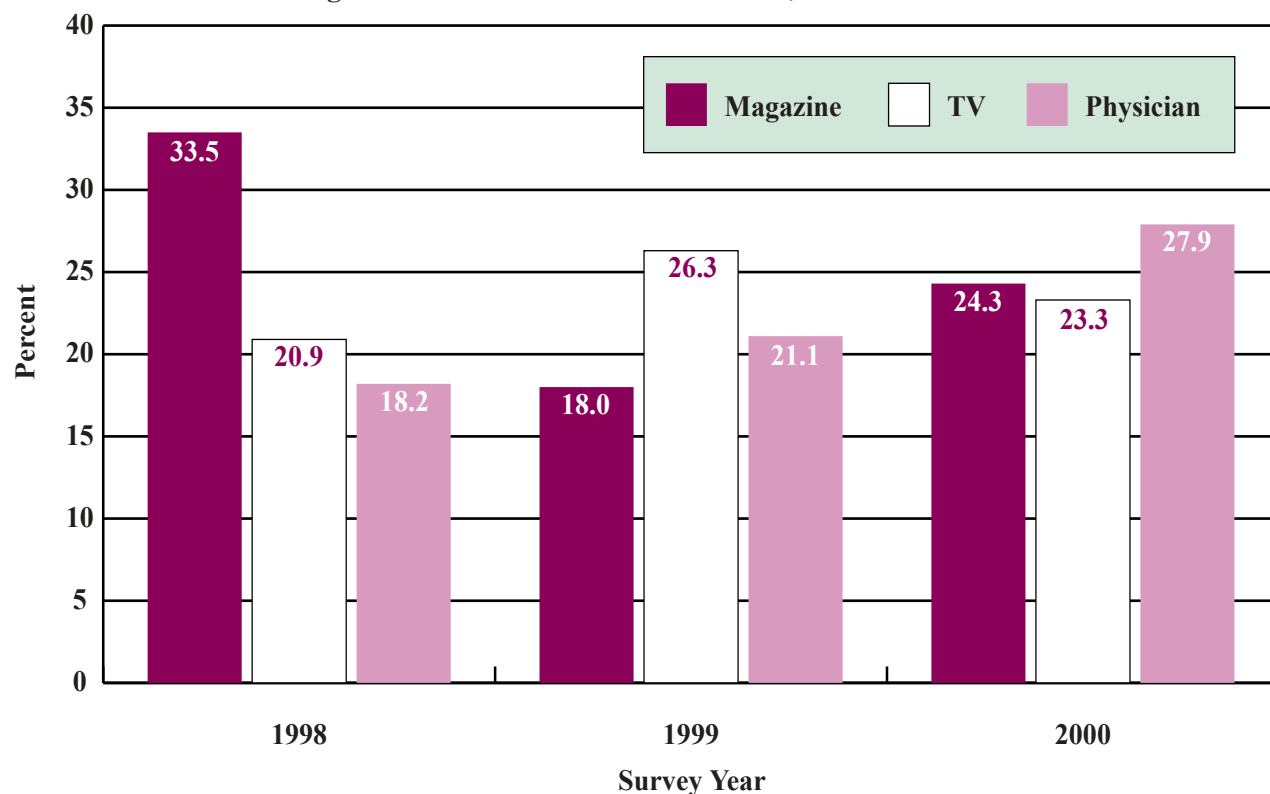
Responses from 2002 suggest that with more information, approximately one-third of women of childbearing age who do not take a supplement would be very likely to eat cereal containing 100 percent of the daily value of folic acid.

### **Gaps in Research**

A national 2003 MOD-funded survey showed women would be more likely to take a folic acid supplement with physician encouragement. It would be helpful to know how many women are told about folic acid by their primary care provider. The current questions inquire about folic acid pills or vitamins. Future research should address how much synthetic folic acid women consume daily through food such as fortified cereal and other fortified grain products. To plan effective interventions, more research is also needed to determine the barriers to taking folic acid supplements among women who report low levels of use: younger women, Hispanic women, women with less than a high school education, women from low income households, and uninsured women.

**Figure 8-1**

**Source of information about folic acid<sup>a</sup> among Hispanic women  
age 18-44 who have heard of folic acid,<sup>b</sup> CWHS 2000**



a Multiple responses allowed

b 65% of all respondents

Source: California Women's Health Survey (CWHS)

**Table 8-1**

**Folic acid awareness, by completed education, health insurance status, and race/ethnicity (women aged 18-44), CWHS 1997-2000**

	1997	1998	1999	2000
<b>Total</b>	<b>57.0%</b>	<b>56.6%</b>	<b>60.1%</b>	<b>66.2%</b>
<b>Completed Education</b>				
Less than High School	21.6%	22.4%	29.3%	33.8%
High School Graduate	48.1%	46.2%	53.8%	55.2%
Some college or technical school training	64.9%	64.3%	66.1%	73.2%
College grad and higher	77.2%	74.6%	79.8%	83.3%
<b>Health Insurance Status</b>				
No health insurance	36.9%	35.3%	41.2%	44.8%
Public health insurance	50.9%	48.2%	54.8%	60.1%
Private health insurance	65.2%	64.4%	67.3%	72.6%
<b>Race/Ethnicity</b>				
White	69.4%	69.6%	71.6%	76.9%
Black/African American	47.9%	47.8%	55.8%	61.3%
Hispanic	28.6%	31.3%	36.9%	42.1%
Asian/Other	53.6%	50.4%	61.1%	61.3%
Sample size	4,010	4,006	4,163	4,012

Source: California Women's Health Survey (CWHS)

**Table 8-2**

**Source of information about folic acid<sup>a</sup> among women age 18-44 who have heard of folic acid<sup>b</sup> CWHS 2000**

Source	Percent with positive response
Magazine	40%
Physician	22%
Television	21%
Friends and family	10%
Books	9%
Brochures in doctor's office	9%
School	9%
Nutrition class out of school	4%
Label on vitamin bottle	4%
Radio	3%
Nurse	2%

a Multiple responses allowed

b 65% of all respondents

Source: California Women's Health Survey (CWHS)

**Table 8-3**

**Percent of women age 18-44 NOT taking folic acid, CWSHS 2002**

	<b>% NOT taking folic acid</b>
<b>Education<sup>a</sup></b>	
Some High School	69.6%
High School Graduate	59.4%
Some College	49.9%
College Graduate	42.6%
<b>Age group<sup>a</sup></b>	
18 - 23	65.5%
24 - 44	50.4%
<b>Household Income<sup>a</sup></b>	
< \$35,000 per year	63.2%
>= \$35,000 per year	45.7%
<b>Race<sup>a</sup></b>	
Non-white	59.8%
White	44.8%
<b>Have a primary care physician<sup>a</sup></b>	
No	55.6%
Yes	49.0%
<b>Pregnant or trying to get pregnant<sup>a</sup></b>	
No	55.4%
Yes	26.4%

a Subgroups differ statistically, results of chi-square tests (all tests p<0.001).

Source: California Women's Health Survey (CWSHS)

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# Body Weight and Obesity-Related Risk Factors and Relationships Among California Women: Findings from the California Women's Health Survey, 1997 – 2002

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## CHAPTER 9

### Introduction

The Surgeon General has designated the rising prevalence of obesity in the United States (U.S.) as a “national epidemic.”<sup>1</sup> California, with an obesity rate that nearly doubled between 1990 and 2002, has not been spared.<sup>2</sup> Body weight status, including obesity and overweight, is based on body mass index (BMI), a person's relative weight for height.\* The National Heart, Lung, and Blood Institute defines obesity as a BMI greater than or equal to 30 and overweight as a BMI greater than or equal to 25 but less than 30.<sup>3</sup> This chapter presents prevalence data regarding body weight and body image, as well as findings about weight-related factors reported by California Women's Health Survey (CWHs) respondents during 1997-2002.

Since 2000, the California Department of Health Services Cancer Prevention and Nutrition Section (CPNS) has funded a variety of questions related to body weight status, diet, physical activity, and food insecurity. CPNS' statewide programmatic objectives include improved consumption of fruits and vegetables, increased participation in physical activity, and optimal use of nutrition assistance programs. To accomplish these objectives, CPNS carries out two large-scale social marketing campaigns, the *California Nutrition Network* and the *California 5 a Day Campaign* and funds more than 180 projects serving low-income California women, school children, and their families.

Two Primary Care and Family Health Division

programs also took part in planning and funding CWHs questions related to body weight and food insecurity. The *Special Supplemental Nutrition Program for Women, Infants, and Children* (WIC) promotes breastfeeding, a strategy to prevent childhood obesity, and provides nutrition guides, nutrition education classes, and related information sessions to participating pregnant, low-income women and mothers with children younger than five years old and their families. WIC convenes and plans the biennial Childhood Obesity Conference in conjunction with the California Obesity Prevention Initiative (COPI), the *California Nutrition Network*, and other state agencies. The Maternal and Child Health Branch (MCH) allocates funding for reduction of child overweight and breastfeeding to the Adolescent and Family Life Program, the Adolescent Pregnancy Prevention Program, the Comprehensive Perinatal Services Program, the California Diabetes and Pregnancy Program, and the Black Infant Health Program. Although a number of DHS programs address obesity treatment and prevention, only CPNS, WIC, and MCH programs deliver direct services specifically to women.

The data from the CWHs provide insight as to relationships for women between body weight and other health status measures and helps the DHS program and campaign planning by identifying which populations are most at risk for overweight status and obesity.

\* BMI = Weight (kg)/Height (m<sup>2</sup>) or [Weight (lbs.)/Height (inches)] x 704.5.



## Background

Overweight and obesity refer to a condition in which a person's body weight and proportion of the body that is fat is high enough to potentially impair health. Obesity is a risk factor for coronary heart disease, diabetes, hypertension, gall bladder disease, osteoarthritis, and many types of cancer.<sup>4,5</sup> Women with a BMI of 34 or higher have a six times greater risk of developing endometrial cancer than women with a BMI below 22.5.<sup>6</sup> For obese adults, weight loss of five to ten percent of body weight improves glucose tolerance, hyperlipidemia, and hypertension.<sup>2</sup> California's 109 percent increase in obesity between 1991 and 2001 was the third highest in the nation.<sup>7</sup> The increase occurred more rapidly for women than for men. The California Behavioral Risk Factor Survey (BRFS) reported that, between 1984 and 2002, the rates of overweight plus obesity in California increased 75 percent for women, but only 26 percent for men.<sup>8</sup> Rates were highest among Black/African Americans, Hispanics, persons in poverty, and persons with the least education.<sup>9</sup> Their high rates contributed to health disparities in obesity-related chronic diseases experienced by these groups.

Obesity not only has adverse health effects but it has economic consequences as well. A recent estimate for California suggests the combination of medical care costs along with lost productivity and workers' compensation that can be attributed to obesity is over \$6 billion each year. When the costs associated with overweight and physical inactivity are added in, Californians are paying nearly \$21.7 billion each year from costs associated with being overweight and inactive.<sup>10</sup>

Although many *Healthy People (HP) 2010* objectives address body weight, two specifically relate to adult body weight status.<sup>11</sup> One objective (*HP 2010 19-1*) is "to increase the proportion of adults who are at a healthy weight (for women 20 years and older) to 60 percent" from a 1988-94 baseline of 45 percent. The

other (*HP 2010 19-2*) is "to reduce the proportion of adults who are obese to 15 percent" from baseline of 25 percent (for women) for 1988-1994. Of the nation's ten Leading Health Indicators for *HP 2010* only healthy weight and obesity indicators are moving strongly away from the target goals.<sup>12</sup>

## Methods

This chapter presents findings from the CWSHS 1997-2002, with an annual total sample of approximately 4,000. Overweight and obesity were defined using the National Heart, Lung, and Blood Institute definition of obesity as described in the Introduction<sup>3</sup> (BMI calculated from the woman's self-reported height and weight, two core CWSHS questions). For comparisons among population groups, body weight status was further defined as "Not overweight or obese" (BMI < 25) vs. "Overweight or obese" (BMI ≥ 25). For evaluating the *HP 2010* objective, "healthy weight" was defined as a BMI greater than or equal to 18.5 but less than 25, while "underweight" was defined as a BMI less than 18.5.<sup>3</sup> In addition, findings primarily from the 2002 CWSHS are presented about factors related to obesity, including perceived body weight status and body image, dieting behavior, consumption of fruits and vegetables, associated diet beliefs, physical activity, employer support for healthy eating and physical activity, and insurance coverage for weight-related treatment. Perceived body weight status was defined as the response given to "thinks self overweight, underweight, or about the right weight for height." Yes or no responses were used to define dieting over the past year and whether or not the respondent's weight affected her feelings about herself.

Goal-achieving fruits and vegetable behavior and belief were defined as eating/believing one should eat five or more servings/day of fruits and vegetables. Goal-achieving physical activity behavior was defined as reporting at least 30 minutes of moderate exercise at least five days/week.<sup>†</sup> Workplace physical activity

*Between 1997 and 2002, obesity increased by one-third among California women.*

<sup>†</sup> Vigorous physical activity questions were not asked due to space limitations on the survey instrument.

was defined as having a job that was “mostly walking” or “heavy, physically demanding work” as opposed to “mostly sitting or standing.” Workplace facilitators were defined as “yes” to one or both of two questions about the presence of nutrition-related benefits\* and physical fitness benefits.\*\* Health insurance as a healthy behavior facilitator was defined as a “yes” response to the question about availability of paid weight loss classes or nutrition counseling.

Demographic variables were defined using the protocol outlined in the Methodology chapter, with two exceptions: racial/ethnic findings were limited to White, Black/African American, Hispanic, and Asian/Pacific Islander (API) women and were not age-adjusted. Since the API subset of the group “Other” showed much lower rates of overweight than the remainder of the group and they were the majority of the group, racial/ethnic findings are presented for API women alone rather than the category “Other.”

Food security means that a household has assured access to enough food that is nutritionally adequate and safe. Food insecurity is the absence of this condition. Food insecurity was defined as “yes” to two or more questions on a six-item short form scale included on the CWHHS beginning in 1999. It provides a reasonably reliable substitute for the 18-item validated Household Food Security Scale developed by the U. S. Department of Agriculture.

Univariate frequencies with 95 percent confidence intervals were used to characterize the populations. Frequencies of characteristics with overlapping confidence intervals among subgroups indicated lack of statistically significant differences. Similar use of overlapping confidence intervals identified statistically significant differences in the prevalence

of characteristics between start and end point years of measurement. The results presented here are unadjusted one-way analyses, i.e., no consideration was given to correlations and relationships among the different variables.

## Results

### Body Weight Status

The prevalence of healthy weight, as measured by self-report in California women, was 53.3 percent in 1997 and 48.2 percent in 2002, moving in a direction counter to the *HP 2010* goal. Between 1997 and 2002, overweight in California women remained stable (26.5 percent vs. 26.9 percent), however, obesity increased by one-third, from 16.7 percent to 22.3 percent (Table 9-1), substantially above the *HP 2010* 15 percent target. Underweight was 3.4 percent in 1997 and 2.6 percent in 2002. When overweight and obesity were combined, the prevalence of women at an excess weight increased 13.6 percent during the six-year period 1997-2002, from 43.3 percent to 49.2 percent, with significant variation by racial/ethnic group (Figure 9-1).

As Figure 9-1 indicates, by 2002 the prevalence of combined overweight and obesity among Black/African American women was 61.6 percent, for Hispanics 61.0 percent, among White women 46.8 percent, and for women of API background 28.6 percent. The percentage difference between 1997 and 2002 was virtually flat for Black/African American women (-1 percent), while it rose to +10.3 percent for Hispanics, +18.8 percent for White women, and +26.5 percent for API women.

*Household poverty level, food insecurity, and low education levels were some of the factors associated with excess weight.*

\* “nutrition classes, weight loss classes, discounts on healthy food choices in the worksite cafeteria, or labeled healthy dining selections in the worksite cafeteria”

\*\* “A gym, health club membership, exercise classes, release time for physical activity, sports teams, lockers or shower”

Prevalence of excess weight increased with age, except for women age 65 years and older (Figure 9-2). Women who had a high school education or less were more likely to be overweight or obese than women with more education (59.1 percent vs. 43.8 percent) (Table 9-2).

Household poverty level, food insecurity, and participation in the WIC program were all related to excess weight (1999-2002) (Table 9-2). There was a significant difference in prevalence of overweight and obesity between women who reported living at or below 185 percent of the federal poverty level (FPL) or below (57.2 percent) vs. those above it (44.9 percent) (Figure 9-3). In 2000-02, there was a consistent weight difference between women who were WIC participants (66.0-64.5 percent) vs. those who were not (46.4-47.9 percent) and between those who reported being food insecure (55.6-56.5 percent) vs. those who did not (43.2-45.8 percent) (Table 9-2). Food insecurity reflects the emotional stress experienced when there is not enough money to buy food as well as compromising behaviors such as buying lower cost, less nutritious foods or choosing to buy food rather than paying for medical or other household expenses.<sup>13</sup> Excess body weight (BMI  $\geq$  25) was not related to marital status, work status, the presence of children in the household, having had steady health insurance, or health maintenance organization (HMO) participation (data not shown).

### **Perceived Body Weight**

In 2002, half of all women perceived themselves to be overweight (Table 9-3), but their perceptions were not always consistent with actual weight. Almost 40 percent of women who had a BMI of less than 18.5 ("underweight") said they thought they were overweight. In contrast, only 17.1 percent of women who were at a healthy weight felt they were overweight and 86.3 percent of women with BMI over 25 considered themselves overweight. In 2000, about 25 percent of underweight women perceived themselves as overweight--a figure that increased to nearly 40 percent by 2002 (Table 9-3).

In 2002, over half (55.5 percent) of all women reported they had tried to lose weight in the past year (Table 9-4). Rates were highest among those who were overweight (69.0 percent), but 43.8 percent of those who had healthy weights and 36.2 percent of

women who were underweight reported trying to lose weight in the past year. Women living in low-income households were more likely to be overweight or obese in 2002 than women in higher income households, but those in the lower income category were less likely to report trying to lose weight (50.4 percent vs. 59.2 percent). Those who had health insurance were also more likely to report trying to lose weight than women without health insurance (56.5 percent vs. 48.35 percent) (Table 9-4).

In 2000, women were asked if their weight affected how they felt about themselves (Table 9-5). Nearly 64 percent (63.9 percent) answered "yes." Black/African American women were less likely than White women or Hispanic women to say that weight affected how they felt about themselves. Women over age 65 were also less likely to report that their weight affected how they felt about themselves compared with younger women (Table 9-5).

### **Healthy Eating and Physical Activity Factors**

During the time period of the data collection, it was recommended that older, inactive women consume at least five servings per day of fruits and vegetables, while more active women needed seven or more servings.<sup>14</sup> In 2002, 23.1 percent of California women reported eating the minimum five daily servings of fruits and vegetables, although 59.4 percent reported *believing* they should eat at least five daily servings (Table 9-6). White women, women age 55 and older, women with more education than high school, women who were food secure, and women whose household income was greater than 185 percent of the FPL were significantly more likely to report eating five servings per day of fruits and vegetables. Physical activity recommendations are to be active at least 30 minutes/day "most days of the week."<sup>12</sup> This goal was achieved for moderate physical activity for 42.5 percent of respondents. Vigorous physical activity questions were not asked. Hispanic and API women (38.1 percent and 28.9 percent, respectively) were less likely than White women (45.9 percent) to report getting the recommended 30 minutes of physical activity five or more days per week. Women who were food insecure were less likely than food secure women to get the recommended amount of physical activity (39.2 percent vs. 45.0 percent) (Table 9-7).

Nearly 70 percent of working women said their

workday consisted mostly of sitting or standing still as opposed to walking or heavy labor (data not shown). Only 15 percent of respondents stated their employers provided healthy eating benefits to employees; about 20 percent reported that their employers provided some type of physical fitness benefit (Table 9-8 - See Methods footnotes for description of possible benefits). Women who had less education or reported being food insecure were less likely to have healthy eating benefits at work. Being younger than 45 years or having at least some post-secondary education were each related to having physical activity benefits available at work. API women were more likely to report that their work place provided physical activity benefits than White or Hispanic women; the Black/African American sample was too small for statistical analysis. Income-related characteristics related to having no physical activity benefits at work included: coming from households earning at or below 185 percent of FPL, food insecurity, or WIC participation. Only 29.3 percent of respondents reported their health plan provided coverage for weight loss or nutrition counseling, but 25.4 percent did not know, in striking contrast to their responses to workplace questions (data not shown). Women with incomes at or below 185 percent of FPL were less likely than those with higher incomes to report insurance coverage for weight loss and nutrition (25.7 percent vs. 31.4 percent). Women who were food insecure were also less likely to have such insurance (22.0 percent vs. 32.1 percent) (Table 9-8).

## Discussion

The proportion of overweight and obesity in women in the 2001 CWSH (49.5 percent) was similar to that found in the 2001 California BRFSS findings (49.4 percent) and similar to the national 2001 Behavioral Risk Factor Surveillance System (51.0 percent). They are somewhat higher than the 2001 California Health Interview Survey (41.5 percent). The CWSH showed significant racial and ethnic disparities in the prevalence of overweight and obesity, a finding that has been consistently observed in many studies.<sup>9,15</sup> Poverty status and other indicators of low-income, e.g., WIC participation and food insecurity, were positively associated with excess weight. Other studies also report overweight as more prevalent in food insecure women.<sup>16</sup> Researchers have suggested lack of availability of healthy foods and/or the higher

cost of nutritious food compared with high fat, low nutrient items as two factors that may contribute to these relationships.<sup>17</sup> More educated women were less likely than others to be overweight or obese. In 2002, excess weight increased significantly between the age groups 18-24 and 25-34 and between age groups 25-34 and 35-44, suggesting early to middle adulthood as key life periods for obesity prevention. Prevalence of overweight increased with age except for women over 65 years, consistent with other research that indicates body weight declines after 60 years.<sup>18</sup> Overweight/obesity was not related to marital status, work status, the presence of children in the household, having had steady health insurance, or HMO participation.

A troubling finding indicated that in both 2001 and 2002, a significantly larger proportion of underweight women perceived they were overweight compared with healthy weight women. Between 2000 and 2002, this perception increased significantly among underweight women, but not among healthy weight or overweight women. The survey sample size was insufficient to further explore subgroups within this population. The finding that Black/African American women were less likely to report loss of self esteem are confirmed by data from the National Longitudinal Survey of Youth and CARDIA.<sup>19,20</sup> One possible explanation is that Black/African American men report preferring women who weigh proportionally more.<sup>21</sup>

Positive nutrition and physical activity practices contribute to achieving and maintaining a healthy weight. Two positive behaviors are consumption of five or more daily servings of fruits and vegetables and achieving 30 minutes or more of daily physical activity. Not only did women fall short of goals for fruits and vegetables and for physical activity, but also many were not aware of recommendations — 40 percent were unaware of fruit/vegetable consumption recommendations and 66 percent were not knowledgeable about physical activity recommendations. The workplace may not help women attain success for either healthy eating or physical activity. Although the Centers for Disease Control and Prevention (CDC) has identified the worksite as a key intervention venue to reach adults, California women reported lack of worksite support for nutrition and physical activity and related health insurance benefits.

The obesity epidemic has developed over time due



# Body Weight and Obesity-Related Risk Factors and Relationships Among California Women:

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to myriad complex factors, some individual, but many societal. A number of interventions have been suggested by public policy makers for obesity prevention, including those directed at the individual and those designed to alter social norms, institutions, communities, systems, environment, and policies. At the individual level, obesity risk-reduction campaigns should promote replacing high calorie foods with low calorie fruits and vegetables, de-normalizing excess portion sizes, and raising awareness about the amount of physical activity needed to lose weight and promote methods to build moderate and vigorous

physical activity into daily life. Obesity prevention and control interventions should be conducted in settings where large numbers of women are found, including worksites, WIC clinics, grocery stores, and restaurants, especially those serving low-income women. Policies in workplaces, retail food outlets, and other community settings should promote access to healthy, affordable food and safe, attractive physical activity opportunities. New community design and retrofitting existing communities can revitalize the built environment to encourage an active lifestyle.

**Table 9-1**

**Body weight trends, California women, 1997-2002**

	1997 Percent (95% CI)	1998 Percent (95% CI)	1999 Percent (95% CI)	2000 Percent (95% CI)	2001 Percent (95% CI)	2002 Percent (95% CI)
<b>Underweight</b>	<b>3.4</b>	<b>3.1</b>	<b>2.8</b>	<b>2.7</b>	<b>2.9</b>	<b>2.6</b>
BMI <sup>a</sup> < 18.5	(2.7-4.1)	(2.5-3.7)	(2.1-3.4)	(2.1-3.3)	(2.3-3.6)	(2.0-3.2)
<b>Healthy Weight</b>	<b>53.3</b>	<b>52.7</b>	<b>50.5</b>	<b>49.3</b>	<b>47.6</b>	<b>48.2</b>
BMI <sup>a</sup> ≥ 18.5 < 25	(51.5-55.1)	(51.0-54.5)	(48.7-52.2)	(47.6-51.1)	(45.8-49.3)	(46.5-49.9)
<b>Overweight</b>	<b>26.5</b>	<b>26.7</b>	<b>26.6</b>	<b>28.4</b>	<b>27.6</b>	<b>26.9</b>
BMI <sup>a</sup> ≥ 25 <30	(25.0-28.1)	(25.2-28.2)	(25.1-28.2)	(26.8-30.0)	(26.1-29.2)	(25.4-28.4)
<b>Obese</b>	<b>16.7</b>	<b>17.5</b>	<b>20.1</b>	<b>19.5</b>	<b>21.9</b>	<b>22.3</b>
BMI <sup>a</sup> ≥ 30	(15.4-18.1)	(16.1-18.9)	(18.7-21.5)	(18.2-20.9)	(20.4-23.3)	(20.8-23.7)

95 percent CI = 95 percent Confidence Interval

a BMI = Body mass index

Source: California Women's Health Survey

Table 9-2

## Trends in combined overweight and obesity among California women, 1997-2002

	1997 Percent (95% CI)	1998 Percent (95% CI)	1999 Percent (95% CI)	2000 Percent (95% CI)	2001 Percent (95% CI)	2002 Percent (95% CI)
<b>Total</b>	<b>43.3</b>	<b>44.2</b>	<b>46.8</b>	<b>47.9</b>	<b>49.5</b>	<b>49.2</b>
	(41.5-45.0)	(42.4-46.0)	(45.0-48.5)	(46.2-49.7)	(47.7-51.3)	(47.4-50.9)
<b>Race/Ethnicity</b>						
White	39.4	41.1	42.7	43.9	47.4	46.8
	(37.2-41.5)	(39.0-43.3)	(40.5-44.9)	(41.7-46.1)	(45.2-49.6)	(44.6-48.9)
Black/ African American	61.7	59.8	67.6	66.1	60.3	61.6
	(54.1-69.4)	(52.8-66.7)	(60.8-74.5)	(59.1-73.1)	(52.4-68.1)	(54.3-68.9)
Hispanic	55.3	57.8	60.2	60.6	60.4	61.0
	(51.6-59.0)	(54.4-61.3)	(56.9-63.6)	(57.0-64.1)	(57.0-63.9)	(57.5-64.4)
Asian/Pacific Islander	22.6	20.7	25.1	30.3	28.5	28.6
	(16.0-29.3)	(14.9-26.5)	(19.3-30.8)	(23.9-36.6)	(22.1-34.8)	(22.5-34.8)
<b>Age Groups</b>						
18-24	30.4	29.0	31.8	35.1	37.4	32.4
	(24.7-36.0)	(24.0-33.9)	(26.4-37.1)	(29.6-40.5)	(32.1-42.7)	(27.0-37.9)
25-34	37.1	38.6	43.8	48.4	46.2	43.9
	(33.5-40.7)	(35.1-42.1)	(40.1-47.5)	(44.6-52.1)	(42.3-50.1)	(40.2-47.5)
35-44	46.8	46.7	48.3	45.7	51.8	51.0
	(43.3-50.2)	(43.2-50.2)	(44.9-51.7)	(42.2-49.3)	(48.3-55.4)	(47.5-54.4)
45-54	50.9	48.5	52.4	55.0	58.2	57.4
	(46.7-55.0)	(44.3-52.6)	(48.4-56.4)	(51.2-58.9)	(54.3-62.1)	(53.7-61.1)
55-64	54.8	60.0	58.1	60.0	62.2	63.6
	(49.6-60.0)	(54.7-65.3)	(53.2-62.9)	(55.0-65.1)	(57.4-66.9)	(59.0-68.2)
65+	45.9	49.5	50.5	48.1	46.9	53.7
	(41.8-49.9)	(45.0-54.0)	(46.4-54.7)	(43.8-52.3)	(42.6-51.2)	(49.6-57.8)
<b>Child Bearing</b>						
18-44	38.8	39.1	42.5	44.2	46.0	43.6
	(36.4-41.2)	(36.8-41.4)	(40.1-44.8)	(41.8-46.6)	(43.6-48.4)	(41.2-45.9)
≥ 45	49.8	51.9	53.1	53.4	54.6	57.5
	(47.3-52.4)	(49.2-54.5)	(50.6-55.6)	(50.9-56.0)	(52.0-57.2)	(55.1-59.9)
<b>Education</b>						
≤ High School	50.8	54.3	56.4	58.9	58.8	59.1
	(48.0-53.6)	(51.5-57.1)	(53.7-59.1)	(56.1-61.8)	(55.9-61.7)	(56.2-62.1)
> High School	38.1	37.7	40.0	40.8	43.9	43.8
	(35.8-40.3)	(35.5-39.8)	(37.7-42.2)	(38.6-43.0)	(41.7-46.1)	(41.6-45.9)
<b>Poverty Status</b>						
≤185% of Poverty			54.8	58.2	56.9	57.2
			(51.6-58.1)	(54.9-61.5)	(53.3-60.4)	(53.7-60.6)
>185% of Poverty			42.7	43.3	46.2	44.9
			(40.5-44.8)	(41.1-45.5)	(44.1-48.3)	(42.9-47.0)
<b>Food Security</b>						
Food Insecure			60.0	58.5	63.3	58.9
			(55.9-64.0)	(54.5-62.5)	(59.4-67.2)	(54.8-63.0)
Food Secure			43.6	45.0	45.9	45.4
			(41.7-45.5)	(43.0-47.0)	(43.9-47.8)	(44.4-48.3)
<b>WIC Status<sup>a</sup></b>						
WIC				66.0	65.8	64.5
				(59.8-72.1)	(59.7-71.8)	(58.4-70.5)
Non-WIC	43.3	44.2	46.8	46.4	48.2	47.9
	(41.5-45.0)	(42.4-46.0)	(45.0-48.5)	(44.5-48.2)	(46.3-50.0)	(46.1-49.7)

95 percent CI = 95 percent Confidence Interval  
 Source: California Women's Health Survey (CWHs)

a WIC = Special Supplemental Nutrition Program for Women, Infants, and Children



**Table 9-3****Percent of California women who considered themselves to be overweight, 2000-2002**

	2000		2001		2002	
	N	Percent (95% CI)	N	Percent (95% CI)	N	Percent (95% CI)
<b>Total</b>	<b>4008</b>	<b>54.3</b> (52.5-56.0)	<b>4018</b>	<b>50.4</b> (48.6-52.2)	<b>4424</b>	<b>52.4</b> (50.9-53.9)
<b>Body Mass Index (BMI)</b>						
Underweight BMI < 18.5	193	26.3 (19.8-32.9)	211	28.3 (21.4-35.2)	267	39.0 (33.1-44.8)
Healthy Weight BMI ≥ 18.5 <25	1879	25.3 (23.1-27.5)	1808	16.0 (14.1-17.8)	1984	17.1 (15.4-18.7)
Overweight/obese BMI ≥ 25	1936	86.9 (85.2-88.6)	1999	86.0 (84.2-87.7)	2173	86.3 (84.9-87.8)
<b>Race/Ethnicity</b>						
White	2452	52.7 (50.5-54.9)	2455	50.2 (48.0-52.4)	2178	52.6 (50.7-54.5)
Black/African American	230	63.0 (55.9-70.1)	218	52.0 (44.2-59.9)	242	55.4 (49.1-61.6)
Hispanic	1037	59.5 (56.0-62.9)	1058	54.5 (51.1-57.9)	1039	55.4 (52.5-58.3)
Asian/Pacific Islander	248	43.4 (36.5-50.2)	241	38.9 (32.0-45.7)	292	36.6 (31.1-42.2)
<b>Age Group</b>						
18-24	389	40.9 (35.3-46.5)	417	37.4 (32.2-42.6)	382	33.5 (28.8-38.2)
25-34	860	52.7 (49.0-56.3)	834	48.3 (44.5-52.2)	918	45.2 (42.0-48.4)
35-44	936	55.9 (52.4-59.4)	946	55.6 (52.1-59.0)	1010	54.6 (51.5-57.6)
45-54	782	65.8 (62.2-69.4)	738	60.0 (56.0-63.7)	882	59.8 (56.5-63.0)
55-64	460	67.1 (62.3-71.9)	495	62.1 (57.4-66.8)	557	68.4 (64.5-72.3)
65+	581	49.0 (40.6-49.1)	588	43.5 (39.2-47.7)	675	47.0 (43.2-50.7)
<b>Child Bearing</b>						
18-44	2185	50.9 (48.6-53.3)	2197	48.2 (45.8-50.6)	2310	47.4 (45.3-49.4)
≥ 45	1823	59.2 (56.7-61.7)	1821	53.7 (51.2-56.3)	2114	57.9 (55.8-60.1)
<b>Education</b>						
≤ High School	1587	60.1 (57.3-62.8)	1536	53.2 (50.4-56.1)	1573	55.9 (53.4-58.3)
> High School	2419	50.3 (48.1-52.6)	2481	48.6 (46.4-50.8)	2850	50.5 (48.7-52.4)
<b>Food Security Status</b>						
Food Insecure	861	59.0 (55.1-62.8)	856	58.3 (54.4-62.1)	912	57.7 (54.5-60.9)
Food Secure	3129	53.0 (51.0-55.0)	3155	48.2 (46.2-50.2)	3406	51.1 (49.4-52.8)
<b>WIC Status<sup>a</sup></b>						
WIC	322	68.9 (63.2-74.5)	338	59.4 (53.5-65.3)	365	56.7 (51.6-61.8)
Non-WIC	3684	52.9 (51.1-54.8)	3679	49.6 (47.8-51.4)	4054	52.0 (50.5-53.6)

95 percent CI = 95 percent Confidence Interval

Source: California Women's Health Survey (CWHs)

a WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

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**Table 9-4**  
**Percent of California women who had tried to lose weight in the past year, 2001-2002**

	2001			2002		
	N	Percent	(95% CI)	N	Percent	(95% CI)
<b>Total</b>	<b>4018</b>	<b>52.7</b>	<b>(50.9-54.4)</b>	<b>4249</b>	<b>55.5</b>	<b>(53.8-57.2)</b>
<b>Body Mass Index (BMI)</b>						
Underweight (BMI < 18.5)	211	24.3	(17.6-31.0)	253	36.2	(29.2-43.2)
Healthy Weight (BMI ≥ 18.5 <25)	1808	40.8	(38.2-43.4)	1948	43.8	(41.2-46.4)
Overweight/obese (BMI ≥ 25)	1999	67.2	(64.9-69.6)	2173	69.0	(66.8-71.3)
<b>Race/Ethnicity</b>						
White	2455	53.6	(51.4-55.8)	2641	56.6	(54.4-58.8)
Black/African American	218	53.8	(45.9-61.6)	230	55.2	(47.7-62.7)
Hispanic	1058	50.8	(47.4-54.2)	1063	54.2	(50.8-57.7)
Asian/Pacific Islander	241	49.6	(42.6-56.6)	272	50.5	(43.6-57.3)
<b>Age Group</b>						
18-24	417	50.5	(45.1-55.8)	382	54.5	(48.7-60.3)
25-34	834	57.0	(53.2-60.8)	918	57.4	(53.8-61.1)
35-44	946	60.0	(56.5-63.4)	1010	60.9	(57.6-64.3)
45-54	738	57.1	(53.2-61.0)	882	59.7	(56.0-63.5)
55-64	495	53.8	(48.9-58.7)	557	56.5	(51.6-61.3)
65+	588	34.7	(30.7-38.8)	675	42.3	(38.1-46.4)
<b>Child Bearing</b>						
18-44	2197	56.5	(54.1-58.8)	2225	57.9	(55.6-60.3)
≥ 45	1821	47.0	(44.5-49.6)	2024	51.6	(49.2-54.1)
<b>Education</b>						
≤ High School	1536	50.9	(48.1-53.8)	1508	49.2	(46.2-52.1)
> High School	2481	53.8	(51.6-56.0)	2740	59.0	(56.9-61.2)
<b>Poverty Status</b>						
≤185% of Poverty	1092	48.3	(44.9-51.8)	1146	50.4	(47.0-53.8)
>185% of Poverty	2658	55.2	(53.1-57.3)	2755	59.2	(57.1-61.3)
<b>Food Security</b>						
Food Insecure	856	51.6	(47.7-55.5)	891	56.0	(52.1-59.9)
Food Secure	3155	52.9	(51.0-54.9)	3342	55.1	(53.2-57.0)
<b>WIC Status<sup>a</sup></b>						
WIC	338	52.3	(46.3-58.4)	351	49.8	(43.7-55.9)
Non-WIC	3679	52.7	(50.9-54.5)	3893	56.0	(54.2-57.8)
<b>Health Insurance</b>						
Health Insurance	3138	52.9	(50.9-54.8)	3404	56.5	(54.6-58.4)
Insurance with Gap <sup>b</sup>	253	60.8	(53.9-67.6)	233	59.8	(52.2-67.4)
No Health Insurance	602	48.1	(43.4-52.8)	599	48.3	(43.6-53.0)

95 percent CI = 95 percent Confidence Interval

Source: California Women's Health Survey (CWSH)

<sup>b</sup> Reported a gap in health insurance in the past 12 months.

<sup>a</sup> WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

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**Table 9-5**

**Percent of California women whose self-opinion was influenced by how much they weigh, 2000**

	<b>N</b>	<b>Percent</b>	<b>(95% CI)</b>
<b>Total</b>	<b>3994</b>	<b>63.9</b>	<b>(62.2-65.6)</b>
<b>Body Mass Index (BMI)</b>			
Underweight (BMI < 18.5)	191	50.9	(43.0-58.8)
Healthy Weight (BMI ≥ 18.5 <25)	1877	62.2	(59.7-64.7)
Overweight/obese (BMI ≥ 25)	1926	66.9	(64.5-69.3)
<b>Race/Ethnicity</b>			
White	2446	64.4	(62.3-66.5)
Black/African American	230	51.1	(43.9-58.4)
Hispanic	1030	66.1	(62.7-69.4)
Asian/Pacific Islander	247	64.8	(58.2-71.4)
<b>Age Group</b>			
18-24	389	66.3	(61.0-71.5)
25-34	859	70.1	(66.7-73.4)
35-44	933	68.8	(65.4-72.1)
45-54	778	70.0	(66.5-73.5)
55-64	456	58.4	(53.4-63.4)
65+	579	44.9	(40.6-49.1)
<b>Child Bearing</b>			
18-44	2181	68.7	(66.5-70.9)
≥ 45	1813	56.6	(54.1-59.2)
<b>Education</b>			
≤ High School	1579	63.3	(60.6-66.0)
> High School	2413	64.2	(62.0-66.3)
<b>Poverty Status</b>			
≤185% of Poverty	1173	63.7	(60.6-66.9)
>185% of Poverty	2471	65.5	(63.4-67.6)
<b>Food Security Status</b>			
Food Insecure	857	73.3	(69.8-76.7)
Food-Secure	3120	61.2	(59.3-63.2)
<b>WIC Status<sup>a</sup></b>			
WIC	320	68.9	(63.1-74.7)
Non-WIC	3674	63.4	(61.7-65.2)

95 percent CI = 95 percent Confidence Interval  
Source: California Women's Health Survey (CWHHS)

a WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

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**Table 9-6**

**Percent of California women who eat five or more daily servings of  
fruit and vegetables and know recommendations, 2002**

	Eats Five or More Serving of Fruits and Vegetables			Believes Five or More Servings Are Needed for Good Health		
	N	Percent	(95% CI)	N	Percent	(95% CI)
<b>Total</b>	<b>1040</b>	<b>23.1</b>	<b>(21.7-24.6)</b>	<b>2608</b>	<b>59.4</b>	<b>(57.7-61.1)</b>
<b>Race/Ethnicity</b>						
White	777	27.6	(25.7-29.5)	1884	69.4	(67.4-71.5)
Black/African American	40	18.0	(11.6-24.3)	116	49.3	(41.8-56.7)
Hispanic	161	14.3	(11.9-16.6)	459	41.4	(38.0-44.8)
Asian/Pacific Islander	49	15.7	(10.9-20.5)	129	40.4	(34.0-46.9)
<b>Age Group</b>						
18-24	61	17.5	(12.8-22.1)	194	55.3	(49.6-61.1)
25-34	184	21.7	(18.6-24.8)	518	59.4	(55.9-63.0)
35-44	194	20.1	(17.3-22.8)	601	61.6	(58.3-65.0)
45-54	212	22.7	(19.7-25.7)	553	61.6	(57.9-65.2)
55-64	173	28.4	(24.3-32.6)	372	62.2	(57.4-67.1)
65+	216	31.1	(27.4-34.8)	370	56.3	(52.1-60.5)
<b>Child Bearing</b>						
18-44	439	20.1	(18.2-22.1)	1313	59.2	(56.9-61.5)
≥ 45	601	27.6	(25.5-29.8)	1295	59.6	(57.2-62.1)
<b>Education</b>						
≤ High School	255	16.8	(14.5-19.0)	684	46.6	(43.7-49.6)
> High School	785	26.8	(24.9-28.6)	1924	66.4	(64.4-68.5)
<b>Poverty Status</b>						
≤185% of Poverty	202	17.5	(14.9-20.1)	509	45.4	(41.9-48.8)
>185% of Poverty	765	26.0	(24.2-27.9)	1909	66.7	(64.7-68.7)
<b>Food Security Status</b>						
Food Insecure	118	12.6	(10.1-15.2)	370	43.2	(39.2-47.1)
Food Secure	906	26.5	(24.8-28.2)	2191	64.6	(62.8-66.5)
<b>WIC Status<sup>a</sup></b>						
WIC	74	20.1	(15.2-25.0)	177	49.9	(43.8-56.0)
Non-WIC	964	23.4	(21.9-24.9)	2427	60.3	(58.5-62.0)

95 percent CI = 95 percent Confidence Interval  
Source: California Women's Health Survey (CWSH)

<sup>a</sup> WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

**Table 9-7**

**Percent of California women who take part in regular physical activity and know recommendations, 2002**

	Reported 30 Minutes of Physical Activity 5 or More Days per Week			Believed 30 Minutes of Physical Activity Most Days was Recommended		
	N	Percent	(95% CI)	N	Percent	(95% CI)
<b>Total</b>	<b>1739</b>	<b>42.5</b>	<b>(40.7-44.2)</b>	<b>1517</b>	<b>33.4</b>	<b>(31.8-35.0)</b>
<b>Race/Ethnicity</b>						
White	1169	45.9	(43.7-48.1)	989	35.2	(33.1-37.2)
Black/African American	81	39.6	(31.7-47.4)	67	26.1	(19.9-32.3)
Hispanic	397	38.1	(34.7-41.5)	360	31.0	(28.0-34.1)
Asian/Pacific Islander	76	28.9	(22.7-35.2)	87	32.6	(26.2-39.1)
<b>Child Bearing</b>						
18-44	897	42.2	(39.8-44.6)	727	30.5	(28.4-32.7)
≥ 45	842	42.9	(40.4-45.3)	790	37.8	(35.4-40.1)
<b>Education</b>						
≤ High School	602	43.1	(40.1-46.1)	511	31.4	(28.8-34.1)
> High School	1137	42.1	(39.9-44.3)	1006	34.6	(32.6-36.6)
<b>Poverty Status</b>						
≤185% of Poverty	435	42.4	(38.9-45.9)	413	33.7	(30.6-36.8)
>185% of Poverty	1144	42.3	(40.2-44.4)	983	33.4	(31.4-35.3)
<b>Food Security</b>						
Food Insecure	307	39.1	(35.0-43.1)	315	32.4	(28.8-36.0)
Food Secure	1424	44.4	(42.4-46.3)	1195	34.4	(32.6-36.2)
<b>WIC Status<sup>a</sup></b>						
WIC	137	38.3	(32.4-44.2)	127	34.2	(28.4-40.0)
Non-WIC	1601	42.9	(41.0-44.7)	1387	33.3	(31.6-35.0)

95 percent CI = 95 percent Confidence Interval

Source: California Women's Health Survey (CWHHS)

a WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

**Table 9-8**

**Percent of California women who received work and health insurance  
support for healthy weight, nutrition, and physical activity, 2002<sup>a</sup>**

	Physical Activity Benefits at Work			Nutrition Benefits at Work			Health Insurance Covers Weight Loss/Nutrition*		
	N	Percent	(95% CI)	N	Percent	(95% CI)	N	Percent	(95% CI)
<b>Total</b>	<b>490</b>	<b>21.3</b>	<b>(19.4-23.2)</b>	<b>354</b>	<b>14.9</b>	<b>(13.2-16.6)</b>	<b>1114</b>	<b>29.3</b>	<b>(27.6-31.0)</b>
<b>Body Mass Index (BMI)<sup>b</sup></b>									
Underweight	19	21.2	(10.6-31.8)	17	20.7	(10.1-31.4)	45	28.3	(19.5-37.1)
Healthy Weight	245	22.9	(20.0-25.7)	158	14.1	(11.8-16.4)	459	26.3	(23.9-28.6)
Overweight/obese	226	19.7	(17.1-22.4)	179	15.2	(12.8-17.6)	610	32.4	(29.9-34.9)
<b>Race/Ethnicity</b>									
White	294	20.6	(18.2-23.0)	203	13.6	(11.6-15.6)	742	29.6	(27.6-31.7)
Black/ African American	33	23.7	(15.8-31.6)	29	22.5	(14.6-30.4)	82	37.7	(30.0-45.3)
Hispanic	101	18.0	(14.3-21.8)	81	13.1	(10.1-16.2)	216	25.9	(22.4-29.4)
Asian/Pacific Islander	59	32.6	(24.6-40.6)	36	21.6	(14.2-28.9)	57	24.6	(18.2-31.0)
<b>Age Group</b>									
18-24	33	17.1	(11.0-23.2)	19	9.4	(4.8-14.0)	77	28.1	(21.9-34.2)
25-34	127	25.2	(21.0-29.3)	84	16.0	(12.5-19.5)	196	27.8	(24.1-31.4)
35-44	156	24.5	(20.9-28.1)	111	18.4	(15.0-21.8)	246	29.9	(26.5-33.3)
45-54	113	18.7	(15.3-22.1)	96	15.2	(12.2-18.2)	269	35.7	(31.9-39.6)
55-64	56	17.6	(12.8-22.3)	40	12.9	(8.5-17.3)	167	35.0	(30.1-40.0)
65+	5	6.0	(0.7-11.3)	4	6.0	(0-12.4)	159	23.8	(20.3-27.3)
<b>Child Bearing</b>									
18-44	316	23.3	(20.8-25.9)	214	15.6	(13.4-17.8)	519	28.6	(26.2-31.0)
≥ 45	174	16.9	(14.3-19.5)	140	13.4	(11.0-15.7)	595	30.3	(28.0-32.6)
<b>Education</b>									
≤ High School	103	16.4	(13.1-19.7)	69	10.6	(7.7-13.4)	327	27.7	(24.6-30.7)
> High School	387	23.2	(20.9-25.6)	285	16.6	(14.6-18.6)	787	30.1	(28.1-32.2)
<b>Poverty Status</b>									
≤185% of Poverty	56	11.9	(8.5-15.4)	49	12.6	(8.6-16.5)	202	25.7	(22.1-29.3)
>185% of Poverty	416	24.4	(22.1-26.8)	292	15.9	(14.0-17.8)	841	31.4	(29.4-33.4)
<b>Food Security</b>									
Food Insecure	56	13.9	(10.0-17.7)	35	7.9	(5.0-10.8)	130	22.2	(18.1-26.2)
Food Secure	432	23.2	(21.0-25.4)	318	16.7	(14.7-18.6)	981	30.1	(29.1-32.8)
<b>WIC Status<sup>c</sup></b>									
WIC	15	11.0	(5.3-16.7)	12	9.7	(3.1-16.4)	53	22.9	(16.3-29.6)
Non-WIC	475	22.0	(20.0-24.0)	342	15.3	(13.5-17.0)	1060	29.8	(28.1-31.6)

95 percent CI = 95 percent Confidence Interval

a These questions were only asked of the 2,351 respondents who reported working.

b Body mass index: Underweight is BMI <18.5 Healthy Weight is BMI ≥ 18.5 <25 Overweight/obese is BMI ≥ 25

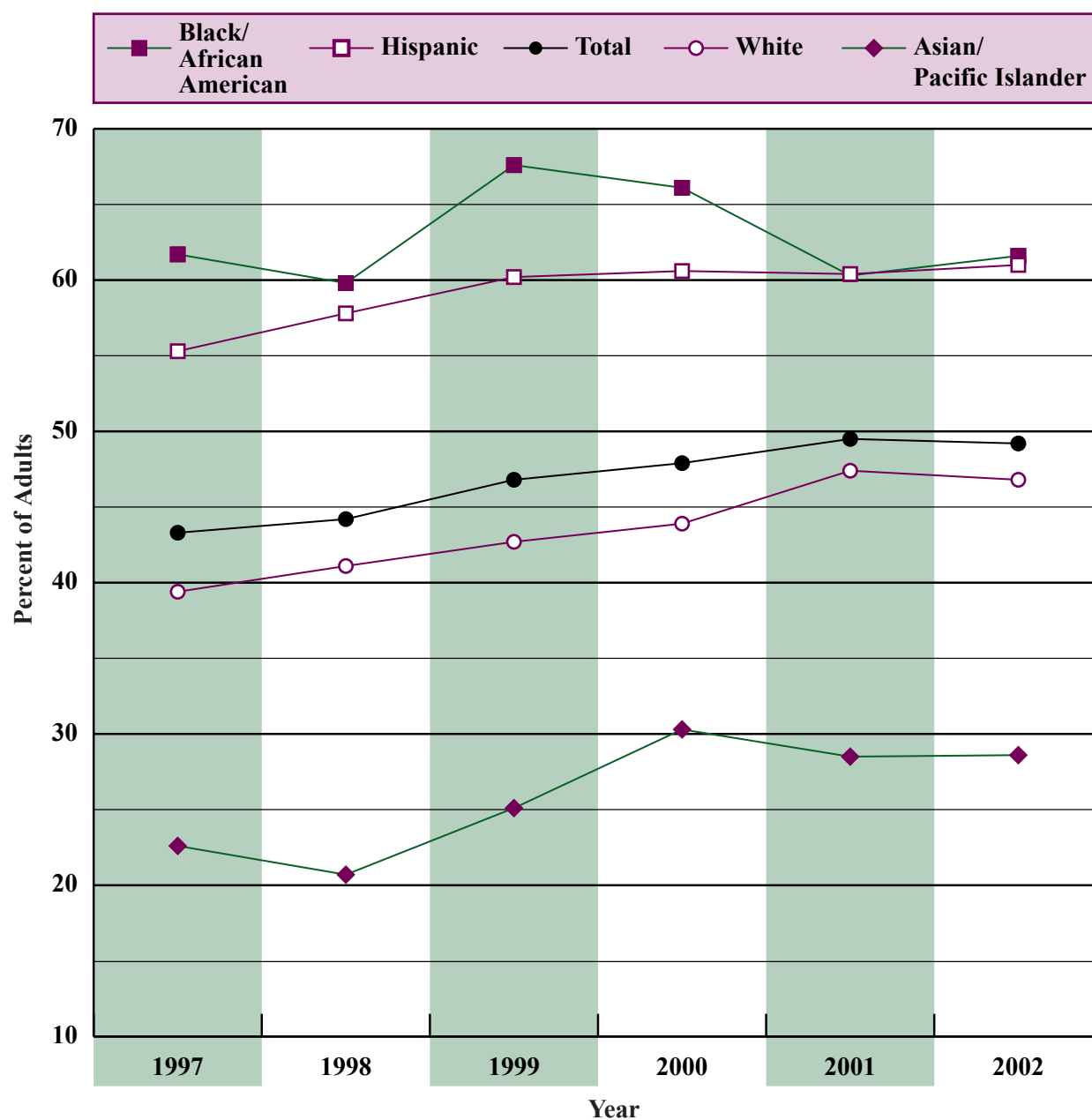
c WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

Source: California Women's Health Survey (CWHHS)



**Figure 9-1**

**Rates of overweight + obesity<sup>a</sup> in California women, by race/ethnicity, 1997-2002**

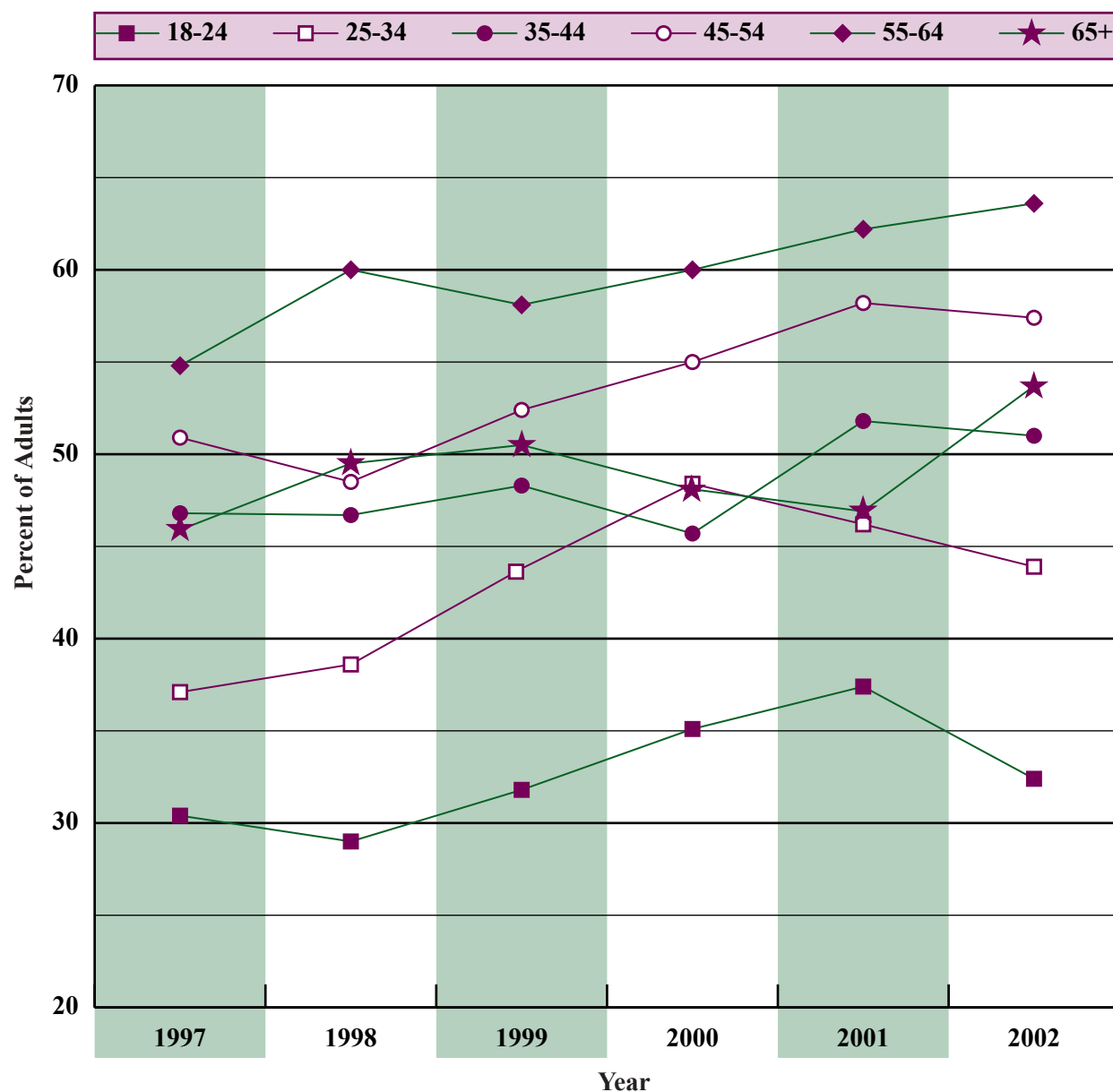


a Overweight & Obesity = Body mass index (BMI) of 25 or higher. Based on reported height and weight.

Source: California Women's Health Survey (CWHS)

**Figure 9-2**

**Rates of overweight + obesity<sup>a</sup> in California women, by age group, 1997-2002**

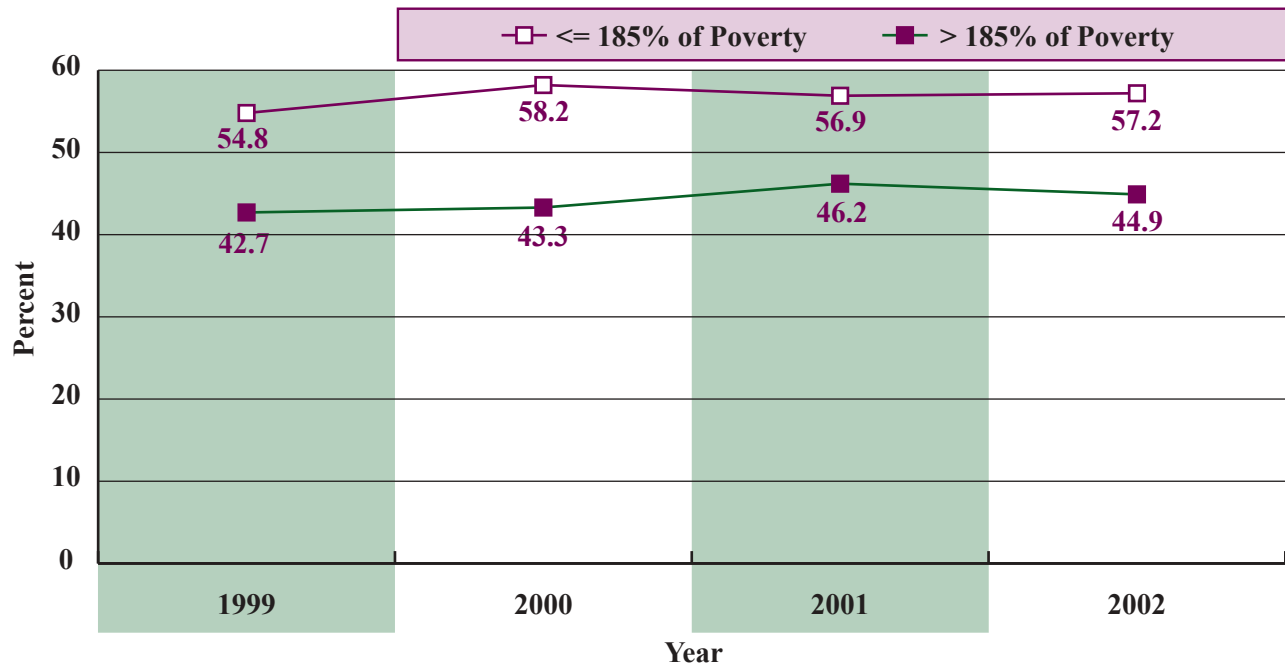


a Overweight & Obesity = Body mass index (BMI) of 25 or higher. Based on reported height and weight.

Source: California Women's Health Survey (CWHs)

**Figure 9-3**

**Rates of overweight + obesity<sup>a</sup> in California women, by percent of federal poverty level, 1997-2002**



a Overweight & Obesity = Body mass index (BMI) of 25 or higher. Based on reported height and weight.

Source: California Women's Health Survey (CWHs)

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Body Weight and Obesity-Related Risk Factors and Relationships Among California Women:  
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# Women with Disabilities and Their Health, Health Care Access, and Utilization

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## CHAPTER 10

### Introduction

The California Department of Health Services, Office on Disability and Health (ODH) is committed to improving the quality of life for people with disabilities. With support from the Centers for Disease Control and Prevention, ODH is working with disability constituencies, researchers, and other state programs on the needs of California's growing and diverse disability population. This chapter describes California women with disabilities and examines selected issues of their health and health care experiences.

### Background

The Americans with Disabilities Act of 1990 defines disability with respect to an individual as "a physical or mental impairment that substantially limits one or more of the major life activities of such individual; a record of such an impairment; or being regarded as having such an impairment."<sup>1</sup> Based on this definition, disability is hard to measure in survey research, so not all surveys define and measure disability in the same manner. Thus, disability estimates range from 3 to 20 percent. For example, the U.S. Census in 2000 found that about 14 percent of Californians report having some kind of disability, roughly 2.4 million of whom are women.<sup>2</sup>

People with disabilities differ demographically from those without disabilities,<sup>3,4</sup> which affects their health care coverage and experience. For instance, the National Health Interview Survey finds that people with disabilities are more likely to be covered by

public insurance (e.g., Medicare and Medicaid).<sup>5</sup> Studies have also shown that women with disabilities face physical, social, attitudinal, and communication barriers to accessing health care.<sup>6,7</sup> These barriers may lead to a delay in seeking care. For example, studies show that older women with disabilities are less likely to obtain a mammogram within recommended guidelines.<sup>8</sup> If people with disabilities have less access to basic health care, they will likely have worse health.

### Methods

The 2003 California Women's Health Survey (CWHS) included the following questions: "Are you limited in any way in any activities due to a physical, mental or emotional problem?" and "And how long have your activities been limited?" If respondents reported that the limitation had persisted "less than six months," ODH excluded them from the sample to avoid including women with temporary conditions (e.g., sprained ankle). Thus, ODH identified only a portion of the disability population: those with long-term activity limitations. Essentially, this study defines "disability" as specific activity limitations. Other studies have used different questions and definitions.

To assess barriers in accessing health care, CWHS asked women with disabilities the following questions: "Has this problem made it difficult for you in getting medical care?" and "What problem or problems have you had in getting medical care?" To compare health care access and utilization among women with disabilities to women without disabilities, ODH



analyzed questions about insurance coverage and women's use of the following services: routine check-up, flu vaccination, mammogram, clinical breast exam, and gynecological exam.

In addition, ODH assessed self-reported health status by analyzing questions that asked about general health status and physical and mental health status in the past 30 days. ODH categorized the responses to: 0 days, 1-14 days, and 15-30 days.

ODH used several age groupings, depending on the outcome under consideration. For the reproductive health care outcomes, ODH followed American Cancer Society guidelines for breast cancer screening.<sup>9</sup> For health insurance status, ODH grouped by working age (18-64 years of age) and retirement age (65 years of age and over).

ODH used a statistics program procedure called SAS Proc Surveymeans to calculate 95 percent confidence intervals (C.I.) for all the percentages reported here. This interval tells ODH the possible range of its estimate. To determine if the difference in proportions between women with and without disabilities was statistically significant, ODH calculated the 95 percent C.I. for the difference in proportions estimate (not shown in this report). If this interval included zero, then ODH concluded the difference was not statistically significant. All data were weighted to reflect the age and race/ethnic distribution of California's population.

## Results

### Prevalence of disability

Overall, 16.7 percent (95 percent C.I. 15.5-17.9) of California women reported their activity being limited in some way for more than six months due to a physical, mental, or emotional problem. Activity limitations were more common among women who were older (over 65 years of age - 30 percent), those of Aleutian, Eskimo, or American Indian descent (42 percent), lower income (less than \$20,000 - 22 percent), and those unable to work (71 percent). (See Figure 10-1.)

### Self-reported health status

Women with disabilities were more likely than women without disabilities to report that they had poor health. Compared with women who reported no disabilities, women with disabilities were almost four times more likely to report their general health as being fair or poor (43.4 percent vs. 11.1 percent). When asked about their recent physical health, women with disabilities were five times more likely to report their physical health was not good during 15-30 out of the last 30 days (35 percent vs 7.1 percent). Likewise, when asked about their recent mental health, women with disabilities were almost three times as likely to report their mental health

was not good during 15-30 of the last 30 days (28.4 percent vs 10.5 percent). When asked about their poor physical or mental health, women with disabilities were about seven times more likely to report their poor physical or mental health kept them from doing their usual activities such as self-care, work, or recreation (27.5 percent vs 3.9 percent) during 15-30 of the last 30 days. (See Table 10-1.)

### Barriers to health care

Of the women with an activity limitation, 17.7 percent (95 percent C.I. 14.6-20.8) said this problem has made it difficult for them to access medical care. The most common barriers they reported include: costs/insurance (51 percent), lack of specialists (29 percent), negative attitude of health workers (21 percent), and transportation (19 percent). (See Table 10-2.)

### Health care access and utilization

Among working-age California women (18-64 years of age), women with disabilities were less likely to have private health insurance coverage (59 percent vs 70.2 percent) and more likely to be covered by public sources (e.g., Medi-Cal and Medicare) (22 percent vs 10.7 percent) when compared with women without disabilities. Among women 45-64 years of age, women with disabilities were more likely to have received a flu vaccination in the past 12 months (47.8 percent vs 37.3 percent). Women 40 years of age and older with disabilities were less likely than

*Women with disabilities were less likely to have private health insurance.*

women without disabilities to have had a mammogram within the past 12 months, although the difference was not statistically significant. In addition, when asked about their ability to pay for a mammogram, women with disabilities were significantly more likely to say it would be very difficult for them (28.8 percent vs 17.7 percent). Among women 20 years of age and older, women with disabilities were less likely to have had a clinical breast exam within the past 12 months, although the difference was not statistically significant. Similarly, among women 40-64 years of age who have not had a hysterectomy, women with disabilities were significantly less likely to have had a gynecological exam within the past two years. (See Table 10-3.)

*Most of the barriers cited by respondents could be mitigated.*

disabilities. With disparities affecting such a large proportion of our population, serious attention needs to be given to the health care access needs of people with disabilities.

Aside from the difficult issue of the costs of care, most of the barriers cited by respondents could be mitigated. One possibility is to offer training for health care providers to help them become more knowledgeable and sensitive about ways to increase access to women

with disabilities. Increasing the availability of specialists, improving overall attitudes, lengthening appointment time slots, providing assistance during the exam, and providing appropriate equipment (e.g., height-adjustable exam tables) are all examples of how to increase access. In addition, local groups (e.g., independent living centers) need the resources to educate women with disabilities about identifying available affordable health care, navigating their health care experience, finding local transportation options, and living independently.

## Discussion

Disability is notoriously difficult to define and, thus, difficult to measure in surveys. Depending on which questions are used to identify the population, estimated prevalence of disability varies from 3 to 20 percent. The estimate in this survey (16.7 percent) falls within this range, and the demographic patterns (i.e., age, race/ethnicity, education, income, marital status) are consistent with past research.

CWHS data indicate that nearly one in five women with disabilities face physical and social barriers to accessing health care. Women with disabilities also differ in their demographic makeup in ways that affect their health care experience. For example, women with disabilities are more likely to have public sources of health insurance and less likely to receive reproductive health care services. Any disparities in access to health care services can contribute to the generally poor health reported by women with

## Limitations

In telephone surveys, such as CWHS, people with disabilities are less visible, not sampled, or in other ways undercounted. For example, people who are deaf or hard of hearing, those who are homeless, people living in households without phones, people with cognitive disabilities, and people living in institutions are often left out. These limitations need to be considered when interpreting the results reported here. Clearly, we need more studies to better understand the disability population. ODH is working with disability constituencies and other researchers to improve data collection on people with disabilities.

**Table 10-1****Self-reported health status among California women, by disability status: 2003 CWHS**

		No Disability			Disability		
		N	Percent	(95% C.I.)	N	Percent	(95% C.I.)
Would you say in general your health is: Excellent, Very good, Good, Fair, or Poor?	Excellent/Very Good	2254	63.0	(61.2-64.8)	200	27.5	(23.8-31.3)*
	Good	936	25.9	(24.2-27.5)	235	29.2	(25.6-32.8)*
	Fair/Poor	422	11.1	(10.0-12.3)	345	43.3	(39.4-47.2)*
	Total	3612			780		
How many days during the past 30 days was your physical health not good?	0 days	2290	62.4	(60.6-64.3)	210	28.2	(24.5-31.9)*
	1-14 days	1054	30.5	(28.7-32.3)	296	36.8	(32.9-40.6)*
	15-30 days	258	7.1	(6.1-8.1)	270	35.0	(31.3-38.8)*
	Total	3602			776		
How many days during the past 30 days was your mental health not good?	0 days	2027	53.1	(51.2-55.0)	283	36.4	(32.6-40.3)*
	1-14 days	1233	36.4	(34.6-38.3)	270	35.1	(31.2-39.0)
	15-30 days	343	10.5	(9.2-11.7)	224	28.4	(24.9-32.0)*
	Total	3603			777		
During the past 30 days for about how many days did poor physical or mental health keep you from doing your usual activities such as self-care, work, or recreation?	0 days	2767	74.6	(72.8-76.3)	324	41.3	(37.3-45.2)*
	1-14 days	708	21.6	(19.9-23.2)	243	31.2	(27.5-35.0)*
	15-30 days	133	3.9	(3.1-4.6)	211	27.5	(24.0-31.0)*
	Total	3608			778		

No Disability=No reported activity limitation in the last 6 months

95% C.I.=95% Confidence Intervals

\*The 95% C.I. of the difference in proportion estimate (not shown here) does not include 0, i.e., this is statistically significant.

Source: California Women's Health Survey (CWHS), 2003

Prepared by: California Department of Health Services, Office on Disability and Health

**Table 10-2****Barriers to health care reported by women with disabilities**

Barriers to Health Care	Percentage of Women Reporting a Barrier (N=137)
Costs/insurance	50.7
Lack of specialists	29.2
Negative attitude/insensitivity of health workers	20.9
Transportation	18.9
Appointment too short	8.3
Lack of assistance (during the exam)	6.9
Wrong equipment (e.g., inaccessible exam table)	2.0

Source: 2003 California Women's Health Survey (CWHS)

**Table 10-3**

**Health care coverage, access, and utilization among California women, by age group and disability status: 2003 CWHS**

		No Disability			Disability		
		N	Percent	(95% C.I.)	N	Percent	(95% C.I.)
Insurance Coverage (among working age women, 18-64 years old)	Private	2258	70.2	(68.2-72.1)	348	59.0	(54.3-63.6)*
	Public	313	10.7	(9.4-12.1)	126	22.0	(18.0-26.0)*
	Other	93	3.6	(2.7-4.5)	33	6.2	(3.9-8.5)*
	No plan	458	15.3	(13.7-16.8)	71	12.5	(9.4-15.6)
Had routine check-up within past 12 months.	18-44 yr.	1428	69.5	(67.1-71.9)	152	65.4	(58.5-72.2)
	45-64 yr.	853	75.6	(72.9-78.4)	252	74.6	(69.7-79.5)
	65+ yr.	413	85.2	(81.9-88.5)	171	86.3	(81.5-91.1)
Had flu vaccine during the past 12 months.	18-44 yr.	304	15.2	(13.4-17.0)	47	20.4	(14.3-26.4)
	45-64 yr.	422	37.3	(34.2-40.4)	158	47.8	(41.8-53.7)*
	65+ yr.	336	67.6	(63.1-72.1)	152	73.1	(66.3-79.9)
Had mammogram within past 12 months.	40-49 yr.	374	60.7	(56.5-65.1)	70	52.4	(42.6-62.2)
	50-64 yr.	494	70.4	(66.6-74.1)	165	71.2	(64.9-77.4)
	65+ yr.	307	70.3	(65.7-75.0)	124	64.1	(56.7-71.5)
Among women who said they would have to pay for all or part of their mammogram: How difficult would it be to pay for the cost of a mammogram?	Very difficult	236	17.7	(15.3-20.1)	72	28.8	(22.4-35.2)*
	Somewhat difficult	450	33.6	(30.6-36.6)	93	36.7	(29.7-43.7)
	Not at all	703	48.6	(45.5-51.8)	89	34.5	(27.5-41.5)*
Had clinical breast exam within past 12 months.	20-39 yr.	919	74.5	(71.6-77.3)	91	69.8	(61.1-78.4)
	40-49 yr.	491	70.2	(66.3-74.0)	90	62.2	(53.5-70.8)
	50-64 yr.	532	76.3	(72.9-79.7)	170	74.0	(68.1-79.8)
	65+ yr.	280	68.7	(63.9-73.5)	107	61.5	(53.8-69.2)
Among women who have not had a hysterectomy: Had gynecological exam within the past 2 years.	18-39 yr.	1298	85.3	(82.9-87.6)	125	81.7	(74.4-89.0)
	40-49 yr.	638	86.5	(83.7-89.4)	111	75.1	(67.5-82.7)*
	50-64 yr.	624	87.1	(84.3-89.9)	191	81.5	(76.3-86.7)*
	65+ yr.	314	74.6	(70.1-79.1)	127	73.3	(66.3-80.3)

No Disability=No reported activity limitation in the last 6 months

95% C.I.=95% Confidence Intervals

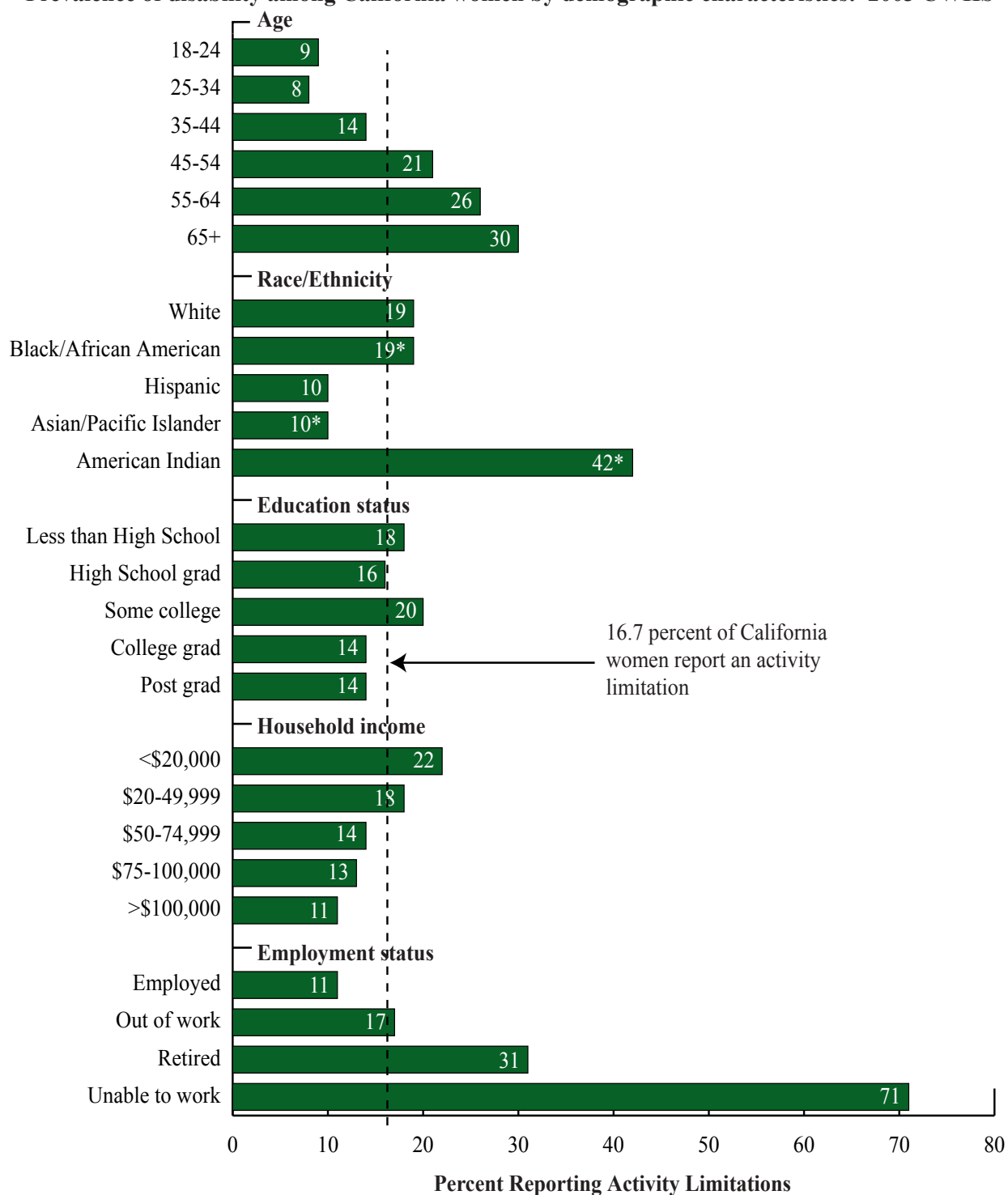
\*The 95% C.I. of the difference in proportion estimate (not shown here) does not include 0, i.e., this is statistically significant.

Source: California Women's Health Survey (CWHS), 2003

Prepared by: California Department of Health Services, Office on Disability and Health

**Figure 10-1**

**Prevalence of disability among California women by demographic characteristics: 2003 CWHHS**



\* Results should be interpreted with caution because of small cell size (<50)

Percentages are weighted for selection probabilities and adjusted for the age and race distribution of California women.

Source: California Women's Health Survey (CWHHS), 2003

Prepared by: California Department of Health Services, Office on Disability and Health

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# Awareness and Prevalence of Osteoporosis Among California Women

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## CHAPTER 11

### Introduction

The World Health Organization categorizes osteoporosis as an epidemic, affecting ten million Americans. Another 34 million Americans are estimated to have low bone mass. In California, approximately five million Californians, 80 percent of whom are women, are estimated to have osteoporosis. There are estimated to be more than 55,000 osteoporosis-related fractures annually in California, costing more than \$2.4 billion. Osteoporosis is a disease characterized by low bone mass, often leading to fractures of the hip, spine, and wrist. Osteoporosis is preventable and treatable. Prevention for osteoporosis begins in youth and continues throughout the lifespan. Early diagnosis and treatment are critically important in reducing the prevalence and debilitating effects of the disease.

In 1999, Assembly Bill 161 (Alquist) established the California Osteoporosis Prevention and Education (COPE) program to promote, develop, and implement sound public health interventions for the prevention of osteoporosis and osteoporosis-related disability for Californians 50 years of age and older. In May 2005, COPE released *A Promise of Lifelong Bone Health: California's Action Plan to Prevent Osteoporosis, 2005-2015*.

### Background

Osteoporosis is a disease of the lifespan. It is a skeletal disorder that is characterized by low bone mass and reduced bone strength, leading to increased bone fragility and risk of fracture. Osteoporosis usually progresses without any physical signs or symptoms until a fracture occurs. Osteoporotic fractures of

the hip, wrist, or spine (collapsed vertebrae) can cause chronic pain, permanent disability, loss of independence, and even death.

Bone loss commonly occurs in women as they age and is accelerated as estrogen levels decline. Women may lose up to 20 percent of their bone mass in the five to seven years following menopause, making them more susceptible to osteoporosis. A woman who does not reach peak bone mass during childhood and adolescence may develop osteoporosis without the occurrence of accelerated bone loss. Bone loss in combination with inadequate peak bone mass development can lead to osteoporosis and an increased risk of fracture.

In California, the cost of treating osteoporosis fractures is about \$2.4 billion per year. Lost productivity resulting from premature death adds an additional cost of approximately \$4 million per year.<sup>1</sup> Most of these additional costs are incurred by hip fractures, a very costly and debilitating outcome of osteoporosis. Osteoporosis is considered a “hidden” disease since bone loss occurs without any symptoms. Consequently, the costs of osteoporosis are likely to be underestimated.

### Risk Factors

Risk factors associated with osteoporosis include advancing age, female gender, small frame or weight under 127 pounds, race, family history of osteoporosis, history of prior fracture as an adult, inadequate calcium and vitamin D consumption, estrogen deficiency, low levels of physical activity, smoking, and excessive alcohol consumption.

## Prevention

Prevention of osteoporosis occurs throughout the lifespan. Women should build a high peak bone mass in their earlier years and work to retain bone mass in later years. Good nutrition, including a diet rich in calcium and vitamin D, participating in regular exercise and resistance training, not smoking, and maintaining a healthy weight are important strategies that young women can use to build a high “peak bone mass” and older women can use to retain bone mass into their later years.

Prevention of injuries related to falls is a primary goal for women with osteoporosis. Falls increase the likelihood of fracturing a bone in the hip, wrist, spine, or other part of the body. A woman who falls is likely to limit her activities because of a fear of falling again. In addition, medications can slow or stop bone loss, increase bone density, and reduce fracture risk.

## Screening

Screening for osteoporosis in a community setting is performed using a portable bone mineral density test (BMD) that measures current bone density at the wrist, forearm, or heel. Results from a BMD can be an important assessment tool for early detection of bone loss in women at risk for developing osteoporosis. BMD has been shown to correlate with load-bearing capacity of the hip and spine and with future fracture risk. Using low-level radiographic equipment or ultrasound, measurements of BMD may be taken at the wrist, spine, hip, forearm, finger, heel, or other peripheral sites where the bones are relatively superficial. Measurements of BMD at the hip and spine predict hip and spine fracture risk better than measurements at other sites.

## Methods

During 2000-2002, the California Women’s Health Survey (CWHs) asked women several questions related to osteoporosis. Readers should refer to Appendix B for exact wording of questions from all years. The information presented draws from three years of data. Multiple years of data were combined in instances where the same question was asked in more than one year; otherwise results are presented using a single year of data.

In 2000, women aged 18 or over were asked: (A) if they had ever heard of osteoporosis, (B) what they thought osteoporosis was, and (C) if their doctor had talked with them about preventing osteoporosis. In 2001, women were asked all three questions, and in 2002, women were asked questions B and C.

In 2000 and 2001, women aged 50 or over were asked whether they had been told they had osteoporosis or bone loss (D1). In 2002, the wording of this question was changed, and women instead answered the question “Have you been told by your doctor or other health care provider that you have osteoporosis,” requiring separate analysis

of this question (D2). The number of respondents who were asked these questions each year is provided in Table 11-1.

*Osteoporosis prevention begins in youth and should continue throughout the lifespan. Yet, almost 34% of the women who did not know what osteoporosis was were aged 18-24, still in their peak bone building years.*

## Results

### Osteoporosis awareness

The majority of women reported having heard of osteoporosis (93.0 percent). The proportion of women between ages 18-24 who were aware of osteoporosis (86.2 percent) was slightly less than the overall percentage, but as many as 90 percent of women in all other age groups had heard of the disease, and the vast majority of women (96.3 percent) over 65 years

had heard of it (Figure 11-1). Differences in awareness of osteoporosis by race/ethnicity are shown in Figure 11-2. The proportions of Hispanic women and women of Asian/Other race or ethnicity who were aware of osteoporosis were 83.7 percent and 82.8 percent, respectively; somewhat less than the 92.7 percent of Black/African American women and 97.8 percent of White women had heard of the disease.

### Knowledge of osteoporosis

The majority of women (80 percent) correctly defined osteoporosis as “bone loss,” “thinning bones,” or by similar definitions. Women who provided an incorrect definition of osteoporosis or said they did not know what osteoporosis was were more likely to be younger (see Figure 11-3). Knowledge of osteoporosis also differed by race/ethnicity; 35.9 percent of Hispanic women and 31.2 percent of Black/African American women provided an incorrect definition or said they did not know what osteoporosis was, compared with 13.6 percent of Whites.

### Osteoporosis prevention

The proportion of women who reported their doctor or health care provider had discussed prevention of osteoporosis with them varied by age. Women ages 55-64 were most likely (62.3 percent) to have had a doctor discuss prevention (see Figure 11-4). Just under half of White women (47.5 percent) reported that their doctor or health care provider had talked to them about preventing osteoporosis, and even fewer Black/African American women (30.2 percent), Hispanic (24.4 percent), and women of Asian/Other race or ethnicity (34.0 percent) reported that a doctor or health care provider had discussed osteoporosis prevention with them.

### Osteoporosis or bone loss/Diagnosis of osteoporosis

In 2000 and 2001, women were asked if they had ever been told that they had osteoporosis, while in 2002 women were asked if a doctor or health care provider

had told them they had osteoporosis. In the previous years, the proportion of women who had been told they had osteoporosis from no specific source was 19.3 percent. In 2002, the proportion of women who had been told they had osteoporosis by a doctor or health care provider was 17.1 percent (CWHHS 2002) (Figure 11-5). Using the combined 2000-2001 dataset, women who had been told they had osteoporosis from no specific source were stratified by race/ethnicity and age (Figure 11-6). Among ages 55-64, White women were the most likely to have been told that they had osteoporosis (16.1 percent), and Hispanic women were the least likely (7.6 percent). Among women aged 65 and older, White women were still the most likely to have been told they had osteoporosis (24.8 percent), and Black/African American women the least likely (7.8 percent).

*Nearly 40% of California Women aged 55 and older have not talked with their physicians or healthcare providers about prevention of osteoporosis.*

Using 2000-2001 data, women whose body mass index (BMI) was in the underweight category (BMI < 20) were more likely to have been told they had osteoporosis (31.8 percent) than women who were of normal, overweight, or obese body mass categories (see Figure 11-7). However, this pattern disappeared in the 2002 data, where women of normal weight were the most likely to report having been

told by a doctor or health care provider that they had osteoporosis (22.7 percent - data not shown).

### Discussion

Awareness of osteoporosis is high among adult California women (93.0 percent). While most of the women in the survey were aware of osteoporosis, a proportion of women ages 18-24 (13.8 percent) were not familiar with this disease. This percentage is of concern since the window between ages 18-24 provides an important opportunity to maximize peak bone mass and help prevent osteoporosis.

Although knowledge of the definition of osteoporosis is high in the overall population (80.0 percent), there is room for improving women's understanding of osteoporosis. This is especially true among Black/

African American and Hispanic women, who have not typically been targeted for osteoporosis education due to historically lower disease rates. Indeed, improved awareness and understanding of the disease across race and ethnic groups may identify more osteoporosis cases in underserved populations.

While 40.1 percent of California women overall report that their doctor or health care provider has discussed osteoporosis prevention with them, rates vary greatly by age and race. Conceivably, some women may not accurately remember whether their doctors have discussed osteoporosis prevention with them, resulting in a low estimate for this question. Nonetheless, these numbers suggest that almost 60

(59.9) percent of the women surveyed, some of whom may be at risk for the disease, are not talking about osteoporosis prevention with their doctors.

In conclusion, less than half of California's women have had a doctor or health care provider discuss osteoporosis prevention with them, but approximately one in two women will experience a fracture as a result of osteoporosis in her lifetime. Thus, future goals among health care providers could be to provide educational messages about osteoporosis and its prevention that target women throughout their lifespan, particularly during the years in which women can increase their peak bone mass.

**Table 11-1**

**Number of CWHs respondents to osteoporosis questions during 2000-2002, by year<sup>a</sup>**

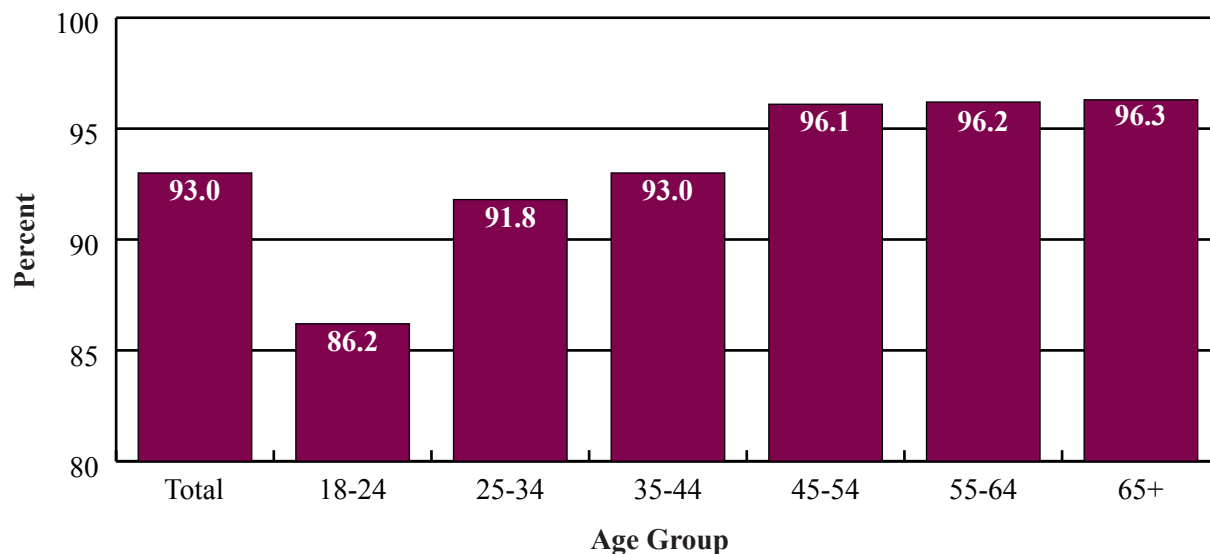
Question	2000	2001	2002
(A) Heard of osteoporosis (asked of women 18+)	n=4,012	n=4,018	-
(B) Definition of osteoporosis (asked of women 18+)	n=3,714	n=3,796	n=4,136
(C) Doctor discussed prevention (asked of women 18+)	n=4,012	n=4,018	n=4,131
(D1) Respondent told she has osteoporosis (asked of women 50+)	n=1,043	n=1,083	-
(D2) Respondent told by doctor she has osteoporosis (asked of women 50+)	-	-	n=1,232

- a For questions asked of only women aged 50 and over, analyses included only respondents aged 55+, in order to weight age-stratified data at semi-decade intervals (55-64, 65+). Data were weighted to the 1990 California population, using a standard weight designed to adjust for differences between race (four categories) and age (six categories) between the CWHs sample and the California population. Data from multiple years were weighted using a created multiple-year weight derived from the standard weight above. Estimates were not age adjusted.

Source: California Women's Health Survey (CWHs)

**Figure 11-1**

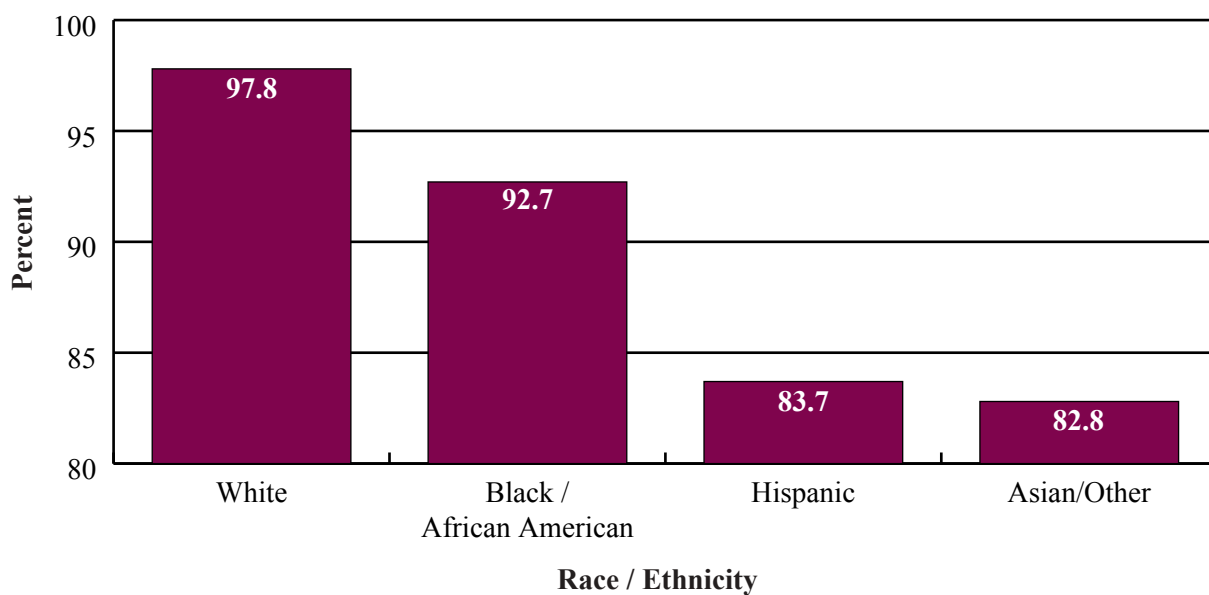
**Percent of women who have heard of osteoporosis, by age.  
California Women's Health Survey (CWHs), 2000-2001**



Source: California Women's Health Survey (CWHs)

**Figure 11-2**

**Percent of women who have heard of osteoporosis, by race/ethnicity.  
California Women's Health Survey (CWHs), 2000-2001**

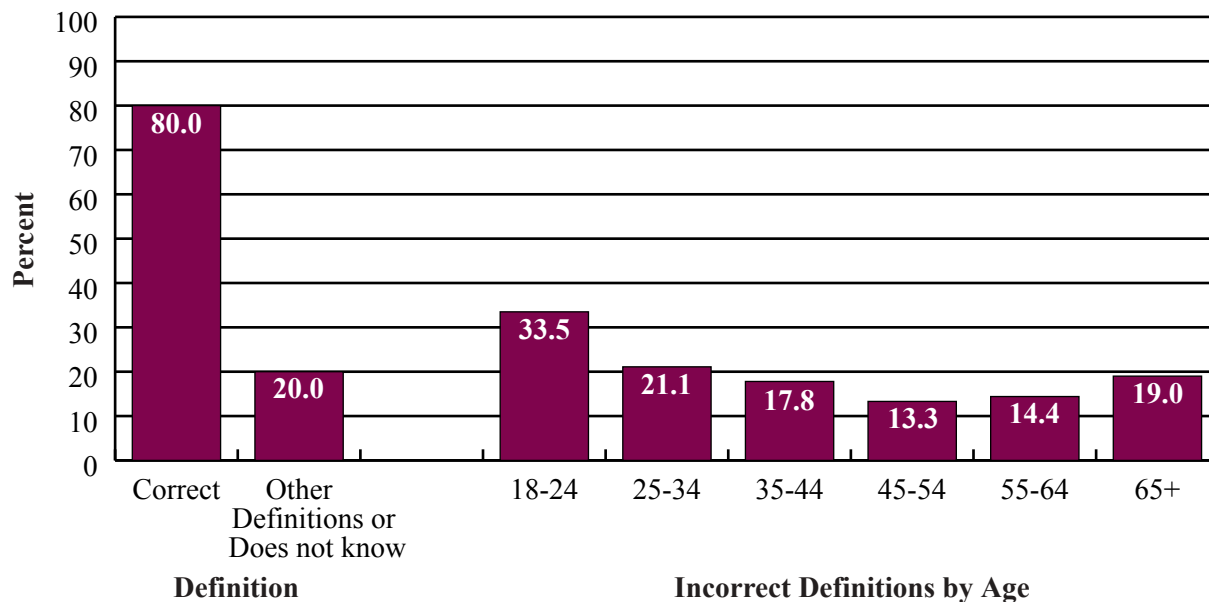


Source: California Women's Health Survey (CWHs)



**Figure 11-3**

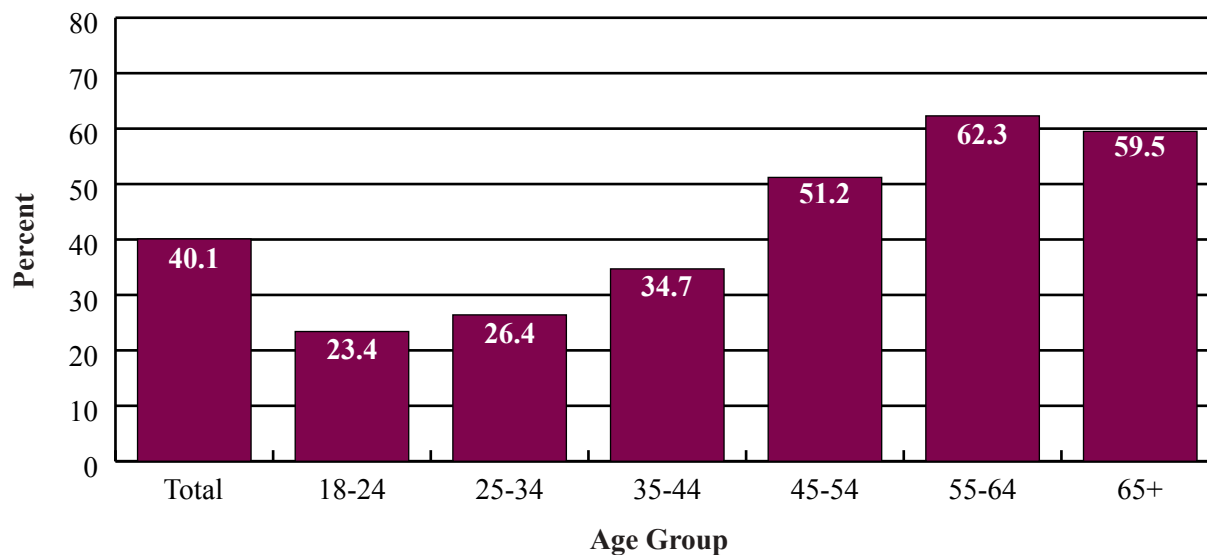
**Knowledge of what osteoporosis is among all women.  
California Women's Health Survey (CWHS), 2000-2002**



Source: California Women's Health Survey (CWHS)

**Figure 11-4**

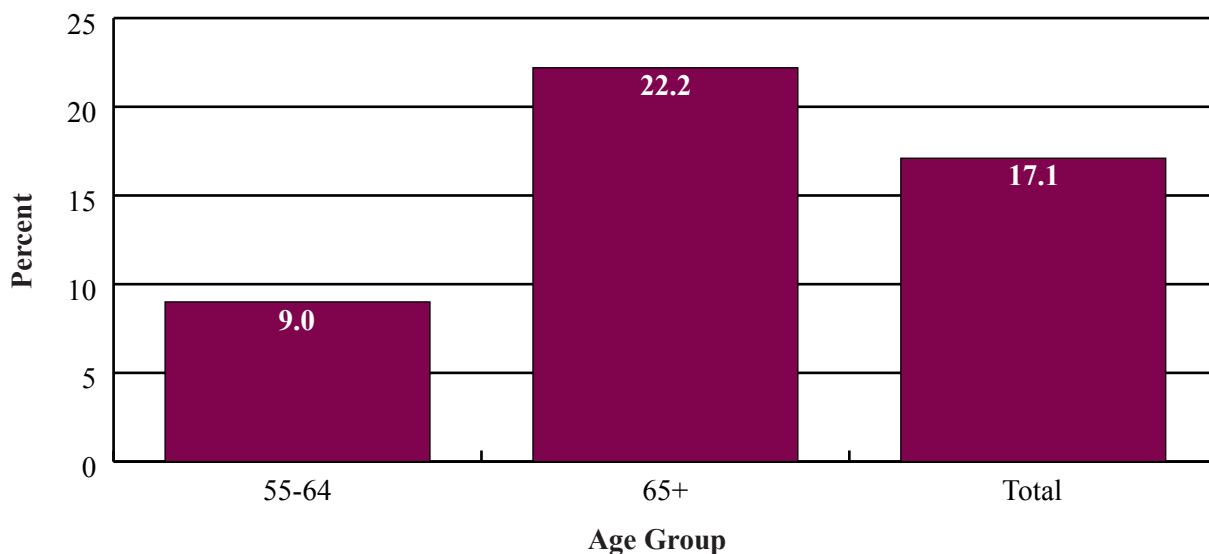
**Percent of women who said that a doctor or health care provider had talked about osteoporosis prevention, by age group. California Women's Health Survey (CWHS), 2000-2002**



Source: California Women's Health Survey (CWHS)

**Figure 11-5**

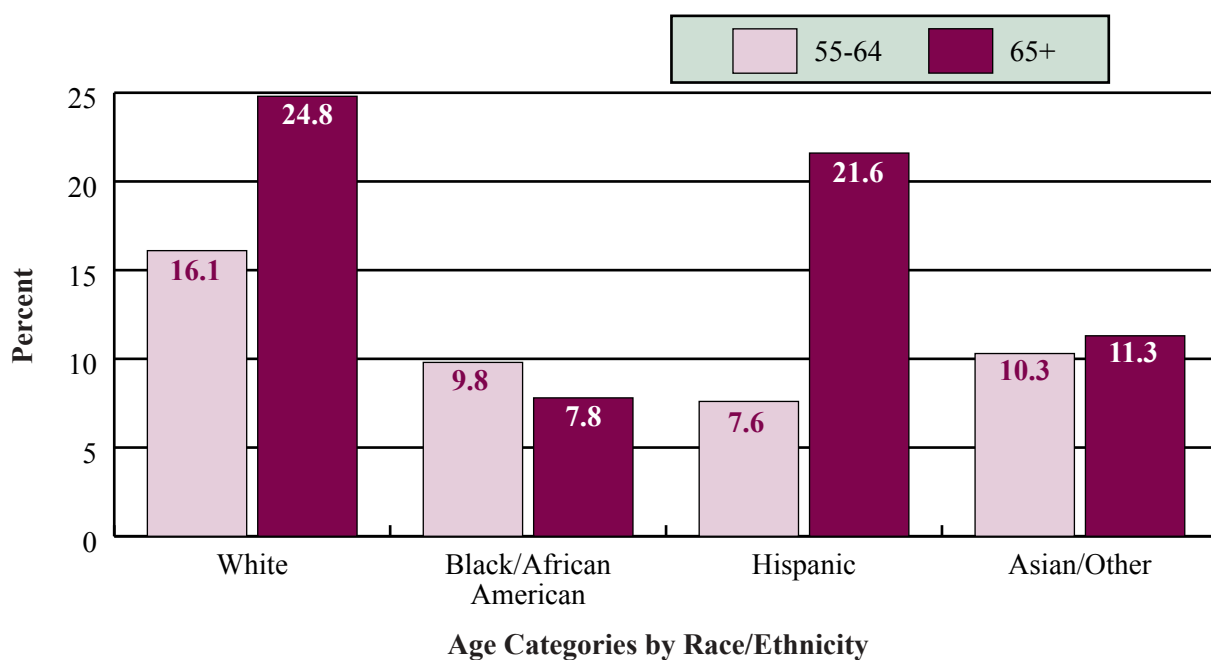
**Percent women ages 55+ who have been told by a doctor or health care provider that they have osteoporosis. California Women's Health Survey (CWHs), 2002**



Source: California Women's Health Survey (CWHs)

**Figure 11-6**

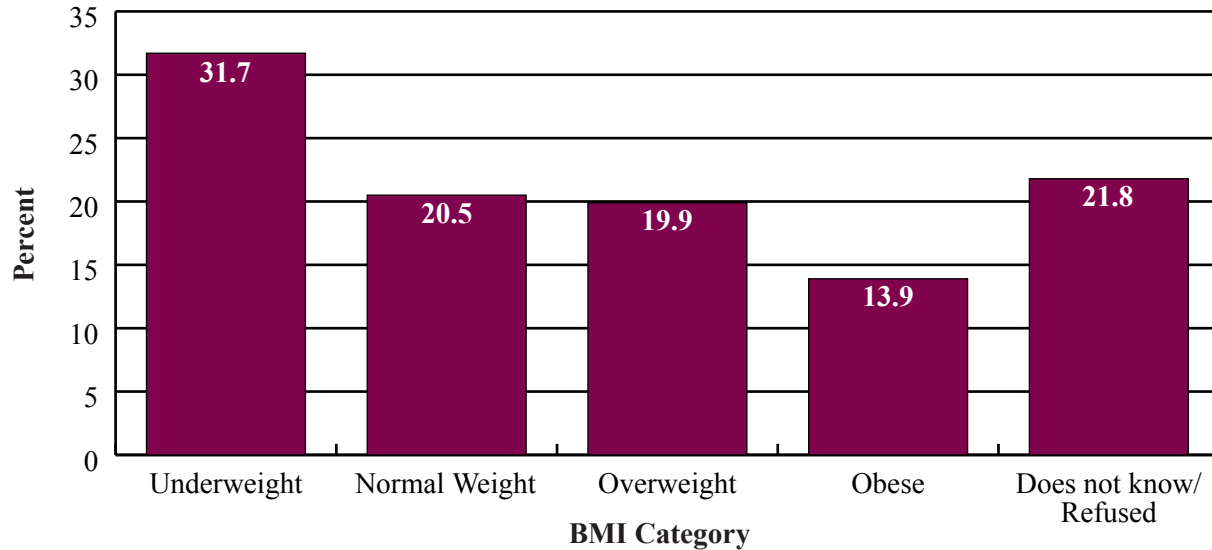
**Percent women ages 55+ who have been told they have osteoporosis, by age group and race/ethnicity. California Women's Health Survey (CWHs), 2000-2001**



Source: California Women's Health Survey (CWHs)

**Figure 11-7**

**Percent of women ages 55+ who have been told they have osteoporosis, by body mass index (BMI) category. California Women's Health Survey (CWHS), 2000-2001**



Source: California Women's Health Survey (CWHS)

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# Women Experiencing Intimate Partner Violence, California, 1998-2002

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## CHAPTER 12

### Introduction

Intimate partner violence is defined as actual or threatened physical or sexual violence or psychological/emotional abuse by a spouse, ex-spouse, boyfriend, girlfriend, ex-boyfriend, or ex-girlfriend. This chapter reviews prevalence data of intimate partner violence (also defined here as domestic violence [DV]) reported by California Women's Health Survey (CWHs) respondents during 1998 through 2001. Where possible, intimate partner violence is further broken down into categories of intimate partner physical domestic violence (IPP-DV), control, threats, sexual assault, and stalking. This chapter also assesses all 2002 respondents' expressed inclination to use DV-related services if they were experiencing intimate partner violence.

The California Department of Health Services Maternal, Child and Adolescent Health Branch/Office of Family Planning's Domestic Violence Program (DVP) administers the California Battered Women's Shelter Program (BWSP), which funds direct shelter services for abused women and their children. The DVP also funds community prevention and special projects to increase services to unserved and underserved populations. Since 1998, the DVP (formerly known as the Domestic Violence Section) has participated in the CWHs work group to obtain DV-related information for estimating intimate partner violence prevalence and for program planning and development purposes. Because the CWHs is a cross-sectional study, the findings can be used to determine associations across variables and subgroups but not cause-and-effect relationships. However, the findings can assist statewide domestic violence programs in determining what groups of women have a higher

need of DV-related services. The CWHs results can also assist the DVP in defining gaps in desired services through women's expressed willingness or inclination to seek DV-related services.

### Background

Approximately one in three homicides of women is committed by intimate partners.<sup>1</sup> In non-fatal situations, DV can lead to adverse physical and mental health consequences, for battered women and their children.<sup>2</sup> Estimates from national surveys with definitions, methodologies, and time frames similar to the CWHs indicate that between one-quarter to one-third of all adult women in the United States have been physically abused by an intimate partner during their lifetime.<sup>3, 4</sup> The same national surveys also indicate that between 1.3 percent to 3.0 percent of U.S. women experienced IPP-DV during the previous 12 months. The national estimates of IPP-DV during the previous 12 months are lower than the California IPP-DV prevalence estimate of 6.0 percent that was obtained from the 1998 CWHs.<sup>5</sup>

### Materials and Methods

For this study, IPP-DV was defined as a "yes" response to any question asking whether the respondent: "was pushed, had objects thrown at her, was slapped, was hit with an object, was kicked or hit, was choked, was beaten up, was threatened and/or injured with a gun or a knife" by her intimate partner during the previous 12 months (questions are based on the Conflict Tactics Scale<sup>6, 7</sup>). In 1998, the first year DV questions were introduced, the DV module administration started two

months after the beginning of the survey. To compensate for the sample size, the 1998 data were re-weighted.

The CWSHS questionnaires were revised annually due to the restrictions on the numbers of questions allocated to the DVP. The main revisions are as follows:

- 1 Some DV-related questions were asked in only one of the five years due to CWSHS space limitations;
- 2 In 2000, the original 1998-1999 questions were condensed to introduce new questions related to domestic abuse. For example, questions such as, "...has a partner pushed, grabbed or shoved you," and "...has a partner slapped you," that were asked separately in 1998 and 1999 were combined into one question "...has a partner pushed, grabbed, shoved or slapped you," requiring a single response;
- 3 In 2002, the entire set of IPP-DV questions was combined into one question and a hypothetical set of questions was asked of all the respondents to determine inclination or willingness to seek and use DV-related services.

Due to the above considerations, data were analyzed for three different aspects:

- 1 Annual prevalence was calculated to estimate numbers and percentages of California adult women experiencing intimate partner violence (years 1998-2001, where available). This report does not consider the 2002 IPP-DV experience responses as prevalence comparable to the previous CWSHS years since the question differed substantially in organization and wording from previous years.
- 2 Four-year data (1998-2001) of survey participants who agreed to talk about intimate partner relationships in the past 12 months were combined to a total of 15,334 (of these respondents, 843 reported they experienced

IPP-DV). This sample was weighted to the 1990 California population census and analyzed. The proportion of each subgroup in each category is presented to indicate the relative magnitude of those subgroups.

- 3 Respondent inclination to use DV-related services available to women experiencing domestic violence was assessed in 2002.

Prevalences were estimated with 95 percent confidence intervals (95% C.I.). In these calculations, overlapping confidence intervals among subgroups within categories were interpreted to mean that the compared subgroups did not differ statistically from each other. Additionally, chi-square tests were conducted to assess associations between subgroups and intimate partner violence. Responses of those who said they did not know or refused to answer the questions were excluded from the analyses.

*Annual Intimate Partner  
Physical Domestic  
Violence prevalence  
estimates ranged from 5.1  
percent to 6.4 percent.*

## Results

### Prevalence of Intimate Partner Violence

Annual IPP-DV prevalence estimates ranged from 5.1 percent to 6.4 percent (Table 12-1). Between 4.9 percent and 7.1 percent of the respondents said that their partners tried to control most or all of their daily activities (three-year range). A slightly lower percentage of respondents reported that they were frightened for family safety because of their partner's anger or threats (3.5 percent to 4.3 percent - three-year range). Less than one percent of the respondents reported that they were victims of intimate partner sexual assault in the previous year (2000, 2001); and approximately 2.4 percent of respondents said that they were victims of intimate partner stalking during the previous year (2001).

Year 2000 survey findings indicate a little over 40 percent of California women experienced IPP-DV in their lifetime. Approximately 12 percent of women reported sexual assault by an intimate partner in their lifetime.

### **Respondents Experiencing IPP-DV in the Last 12 Months--Demographic and Health Factors (1998-2001)**

The four-year average IPP-DV prevalence estimate was 5.8 percent (95 percent confidence interval, 5.4-6.2 percent) (data not shown). Thus, on the average, approximately 608,100 California women 18 years of age and older experienced IPP-DV each year. Higher IPP-DV rates were seen among Black/African American (8.5 percent) and Hispanic (7.9 percent) women compared with White (5.0 percent) and Asian/Other (4.8 percent) women (Table 12-2). Younger women (18-24 years of age) (11.0 percent) and those who had been pregnant in the past five years (11.7 percent) or were living with children younger than 18 years of age (8.3 percent) had higher rates of IPP-DV than their counterparts. Level of education was inversely related with prevalence of IPP-DV. That is, women with lower education levels tended to report higher prevalence of IPP-DV than women with higher education. Additionally, respondents who had the following socioeconomic characteristics also had higher IPP-DV prevalence rates: those enrolled in the Women, Infants and Children (WIC) Supplemental Nutrition Program (16.8 percent); women without health insurance coverage (10.4 percent); women with lower annual household income (6.5 percent); those with more than three people in the household (7.7 percent); and unmarried women (7.8 percent).

IPP-DV experience also appears to be associated with adverse health indicators. Respondents who indicated they were in excellent or good health had lower prevalence of IPP-DV (5.4 percent) than those in poor or fair health (8.0 percent). Respondents who said they felt overwhelmed in the previous 30 days very often or often had higher IPP-DV prevalence rates (16.3 percent) than those who did not report feeling overwhelmed (2.4 percent). Respondents who at first sexual intercourse were 17 years of age or younger had higher rates of IPP-DV (9.4 percent) than those who were older (3.5 percent). Respondents who indicated

experiencing IPP-DV also tended to demonstrate some adverse health behaviors, such as smoking and chronic drinking (Table 12-2).

All the associations above were found to be statistically significant at  $p < 0.01$  (chi-square tests).

### **Inclination to Use DV-Related Services (2002)**

About 2.3 percent of the respondents reported experiencing domestic violence. Responses of those who experienced IPP-DV did not differ statistically from those who responded that they did not experience IPP-DV. Overall, 92.0 percent of all CWSHS respondents said they would use some type of services (Table 12-3). About 71.6 percent of all CWSHS respondents said they would use legal services, followed by crisis counseling (67.2 percent) and support groups (64.4 percent).

Statistical differences for those who would seek any services were observed by race/ethnicity and age group (data not shown). Among the racial/ethnic groups, 95.8 percent of Hispanics, 93.2 percent of Black/African Americans, 92.8 percent of

Asian/Other and 90.6 percent of Whites (chi-square  $p < 0.01$ ) reported they would reach out for some type of services. Respondents 45 years of age and older were less likely to report they would reach out for some type of help (88.7 percent) compared to younger respondents (94.2 percent) (chi-square  $p < 0.001$ ). And women who had children were more likely to say they would use program services (94.7 percent), compared to those without children (89.7 percent) (chi-square  $p < 0.001$ ).

### **Discussion**

According to the CWSHS, IPP-DV prevalence is higher for California women than national prevalence as found through nationally administered surveys. Results of our analyses indicate that several factors were associated with IPP-DV. Women experiencing IPP-DV were young, had children in households,

*Survey findings indicate a little over 40 percent of California women experienced Intimate Partner Physical Domestic Violence in their lifetime.*



were unmarried, and had low income. Among the racial/ethnic groups, Black/African Americans and Hispanics reported higher rates of IPP-DV than White and Asian/Other groups. Women experiencing IPP-DV were more likely to report poor physical health status as well as feeling overwhelmed. They also tended to report adverse health behaviors, such as smoking and chronic drinking. However, it should be noted that these associations do not and should not be interpreted to indicate causality. For example, research indicates that a woman experiencing IPP-DV may use and abuse substances (illicit drugs, alcohol, or tobacco) as a means to self-medicate or sedate herself to the pain and distress of the battering situation.<sup>8</sup>

The results presented here are reflective of one-

way analyses, i.e., no consideration was given to correlations and relationships among the different variables. Furthermore, the impact of socioeconomic status and other compounding and confounding factors that may influence higher prevalence of IPP-DV among Black/African American and Hispanic women were not determined through these analyses.

The 2002 data indicate that most of the respondents (92.0 percent) would use some DV-related resources if the need arose. Future research and interventions should focus on women who may not know about the resources or do not know how to use them. Additionally, studies are still needed to understand why some women may choose not to use the available resources.

**Table 12-1**

**Prevalence of intimate partner physical domestic violence (IPP-DV),  
control, fear, sexual assault and stalking,  
California Women's Health Survey (CWHs), 1998-2001<sup>a</sup>**

	Survey Year	Prevalence (Percent)	Prevalence 95% Confidence Interval	Estimated Number of Victims
<b>Past 12 Months Experience</b>				
Physical Domestic Violence (IPP-DV)	1998	6.0	5.2-6.8	669,755
	1999	6.4	5.5-7.3	684,273
	2000	5.7	4.8-6.6	611,127
	2001	5.1	4.3-6.0	568,216
Partner tried to control most or all daily activities	1999	7.1	6.1-8.1	707,458
	2000	4.9	4.0-5.7	492,813
	2001	5.3	4.4-6.1	524,789
Frightened for family safety because of partner anger or threats	1999	3.5	2.8-4.1	345,537
	2000	4.3	3.5-5.1	437,704
	2001	4.2	3.4-5.0	418,200
Sexual Assault	2000	0.9	0.6-1.3	96,245
	2001	0.7	0.4-1.0	69,603
Stalking	2001	2.4	1.8-3.0	240,527
<b>Life-time Experience (Ever)</b>				
Physical Domestic Violence (IPP-DV)	2000	41.1	39.3-42.8	4,397,888
Sexual Assault	2000	12.2	11.0-13.4	1,255,976

a - Due to limited space availability, questions related to intimate partner violence were not asked every year. Additionally, some survey questions have been condensed to allow inclusion of questions related to new emerging program needs (please see text).

Source: California Women's Health Survey (CWHs)

**Table 12-2**

**Prevalence of intimate partner physical domestic violence (IPP-DV)  
among demographic, socioeconomic and health subgroups,  
California Women's Health Survey (CWHs), 1998-2001 (combined)<sup>a</sup>**

Category	Subgroup Percent of Category Total <sup>b</sup>	Prevalence (Percent)	Prevalence 95% Confidence Interval
<b>Demographics</b>			
<b>Race/Ethnicity<sup>c</sup></b>			
White	62.0	5.0	4.4- 5.5
Black/African American	6.9	8.5	6.2-10.7
Hispanic	21.5	7.9	6.9- 8.8
Asian/Other	9.7	4.8	3.5- 6.1
<b>Age group<sup>c</sup></b>			
18-24	14.6	11.0	9.3-12.8
25-34	25.1	9.3	8.2-10.4
35-44	21.1	6.0	5.1-6.8
45-54	13.2	3.2	2.5-3.9
=>55	26.0	0.7	0.4-0.9
<b>Children &lt;18 in the household<sup>c</sup></b>			
Yes	47.8	8.3	7.5-9.0
No	52.2	3.5	3.1-4.0
<b>Social/Economic Characteristics</b>			
<b>Employment<sup>c</sup></b>			
Employed	56.1	6.9	6.0-7.8
Not working for pay	31.2	6.4	5.8-7.0
Retired	12.7	0.5	0.2-0.8
<b>Education<sup>c</sup></b>			
Technical school and less	42.6	7.1	6.4-7.8
Some college and above	57.4	4.9	4.3-5.4
<b>WIC Status, within the last 2 years<sup>c,d,e</sup></b>			
WIC	10.8	16.8	13.3-20.4
Non-WIC	89.2	5.8	5.1-6.5
<b>Access to health insurance<sup>c</sup></b>			
Have health insurance	86.2	5.1	4.6-5.5
Do not have health insurance	13.8	10.4	8.8-12.0
<b>Income<sup>c</sup></b>			
<=\$35,000	63.0	6.5	5.9-7.1
> \$35,000	37.0	4.7	4.0-5.3

Table 12-2 continued next page

<i>Table 12-2 continued from previous page</i>			
Category	Subgroup Percent of Category Total <sup>b</sup>	Prevalence (Percent)	Prevalence 95% Confidence Interval
<b>Marital status<sup>c</sup></b>			
Married	53.1	4.0	3.6-4.5
Not married	46.9	7.8	7.1-8.6
<b>Household members<sup>c</sup></b>			
Three and less	61.0	4.6	4.1-5.1
More than three	39.0	7.7	6.9-8.5
<b>Physical Health</b>			
<b>General health<sup>c</sup></b>			
Excellent/Good	84.3	5.4	4.9-5.8
Fair/Poor	15.7	8.0	6.8-9.3
<b>Mental Health</b>			
<b>Felt overwhelmed in the past 30 days<sup>c,d</sup></b>			
Very Often/Often	11.3	16.3	14.0-18.6
Sometimes	19.7	9.5	8.0-11.0
Rarely	26.4	5.2	4.2-6.2
Never	42.6	2.4	1.9-2.9
<b>Health-Related Behaviors</b>			
<b>Smoking status<sup>c</sup></b>			
Current smoker	17.3	11.6	10.1-13.1
Former smoker	22.1	4.5	3.7-5.2
Never smoked	60.6	4.6	4.1-5.1
<b>Had an average of 60 or more drinks in the previous month (chronic drinking)<sup>c</sup></b>			
Yes	1.5	14.4	8.3-20.6
No	98.5	5.7	5.2-6.1
<b>Pregnancies/Sexual history</b>			
<b>Age at first intercourse<sup>c</sup></b>			
<=17 years old	43.4	9.4	8.6-10.3
>17 years old	56.6	3.5	3.1-4.0
<b>Pregnant in the previous 5 years<sup>c,f</sup></b>			
Yes	32.9	11.7	10.5-12.9
Not pregnant	67.1	5.6	5.0-6.2

a Category subgroups.

b Subgroup proportion of total survey respondents, missing, refusals and “does not know” responses are excluded. Due to rounding of values sums may not add exactly to 100%.

c Statistically significant distributions of IPP-DV among the subgroups, results of chi-square tests (all tests  $p < 0.01$ ).

d Data are available for 1998-1999 years only.

e WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

f Asked only of women aged <55.

Source: California Women’s Health Survey (CWSH)

**Table 12-3**

**Types of programs/services respondents would use if they were hurt/afraid of an intimate partner, 2002**

	<b>Experiencing Intimate Partner Physical Domestic Violence (IPP-DV) (Percent)</b>	<b>Not Experiencing Intimate Partner Physical Domestic Violence (IPP-DV) (Percent)</b>	<b>All Respondents (Percent)</b>
Legal services	68.8	71.7	71.6
Crisis counseling	56.6	67.5	67.2
Support groups	58.5	64.6	64.4
Health services	55.1	60.1	60.0
Battered women's shelter	34.2	43.0	42.8
Housing help	38.3	37.8	37.8
Children's therapy/ counseling	31.3	34.2	34.1
Job training/job search	33.5	29.8	29.9
Financial help	23.2	29.0	28.8
Other	14.4	13.6	13.6
<b><i>Some type of help</i></b>	<b>89.3</b>	<b>92.1</b>	<b>92.0</b>

Source: California Women's Health Survey (CWHs)

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# Posttraumatic Stress Disorder

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## CHAPTER 13

### Introduction

Posttraumatic Stress Disorder (PTSD) is a diagnosis that can occur following life-threatening events such as military combat, terrorist incidents, or violent personal assaults like rape. The symptoms of PTSD include constant “re-experiencing” of the traumatic event through nightmares, flashbacks, or intrusive thoughts. As a result, many people try to avoid thoughts and reminders of the event and have trouble sleeping. Individuals with PTSD also feel generally detached or estranged from other people and/or unusually “on guard” or watchful. These symptoms are marked by clear biological changes and are associated with distinct difficulties with social or family life such as occupational instability, marital problems and divorces, family discord, and difficulties in parenting.<sup>1</sup> PTSD often occurs in conjunction with other related disorders such as depression, substance abuse, and poor physical health.<sup>2</sup> PTSD is more than twice as common among women than men.<sup>3</sup>

### Methods

Data are from the 2001 and 2002 California Women’s Health Survey (CHWS). A total of 3,343 women for 2001 and 3,348 women for 2002 answered survey questions for all PTSD variables and were used for the current analyses. To measure symptoms of PTSD, the California Department of Social Services (DSS) used a brief, valid, and widely used screen (which does not represent a professional diagnosis) for PTSD symptoms<sup>4</sup> that was included in the 2001 and 2002 CHWS. These items were:

1. Thinking back over your entire lifetime, have you ever had any experience or experiences that were frightening, horrible, or upsetting?
2. Now thinking about the last 30 days, did you have nightmares about any experience or think about it when you did not want to?
3. In the past 30 days, did you try hard not to think about any experience or go out of your way to avoid situations that reminded you of it?
4. In the past 30 days, have you been constantly on guard, watchful, or easily startled?
5. In the past 30 days, have you felt numb or detached from others, activities, or your surroundings?

This chapter reports the prevalence of the responses to these items among California women. Responses to the first item are reported as “trauma exposure,” or the frightening experience that causes the PTSD symptoms. The other four questions address PTSD symptoms, which for brevity are called re-experiencing, avoidance, hypervigilance, and emotional numbing. The prevalence of these PTSD symptoms on the basis of poverty status and TANF (Temporary Assistance to Needy Families)/Welfare participation is also reported. While many state programs may use varying percentages of the federal poverty level to determine eligibility, the federal poverty level as a general indicator of poverty was used in this analysis.

Two items were used as a proxy for current TANF/Welfare participation. For analyses of 2001 data, the item included in the survey was: *Now, I would like to ask you about receiving money from the county (for your*



family) on a regular basis. This assistance is sometimes called welfare, AFDC or CalWORKs. Are you currently receiving money through one of these programs? For 2002 the item included in the survey was: *Now, I would like to ask you about receiving money from the county (for your family) on a regular basis. This assistance is sometimes called welfare, AFDC or CalWORKs. Thinking back to the last 30 days, did you receive money through one of these programs?*

*Trauma exposure and PTSD are over-represented among poor women.*

## Data Analysis

Data were analyzed using SPSS for windows version 11.0. Frequencies were calculated for each category of symptoms and Chi-square analyses were used to assess the relationship between each type of PTSD symptom and 1) poverty and 2) welfare. Confidence intervals (CIs) of 95 percent were calculated for all odds ratios (ORs). An OR compares the probability of a certain event (e.g. having a PTSD symptom) in two different groups. An OR of one suggests that the event is equally likely in both groups; an OR greater than one suggests that this event is more likely in one group than another. If the range of values for the 95 percent CI includes one, the OR is not statistically significant at the  $p < .05$  level. All analyses are weighted to California's 1990 female population by age and ethnicity.

## Results

In 2001, 71.8 percent of all women reported trauma exposure. Of those women, 28.2 percent experienced one or more symptoms of PTSD (Table 13-1).

In 2002, 72.5 percent of all women reported trauma exposure. Of those women, 27.5 percent experienced one or more symptoms of PTSD (Table 13-2).

### Poverty

Symptoms of PTSD are over-represented among women in poverty. In 2001, 58.3 percent of women living at or below the federal poverty level reported PTSD symptoms compared with 37 percent of women above the poverty

level. In 2002, 57.3 percent of women living at or below poverty level reported experiencing any PTSD symptoms compared with 35.2 percent of women above the poverty level. The most common type of PTSD symptoms for women below the poverty level were avoidance symptoms, such as avoiding places, people, thoughts, and reminders of the traumatic event (Table 13-3 and 13-4).

### Welfare

Symptoms of PTSD demonstrated a strong association with use of welfare. In 2001, 64.9 percent of women participating in TANF reported PTSD symptoms, while only 38.5 percent of all other women reported PTSD symptoms. In 2002, 61.1 percent of women participating in TANF reported PTSD symptoms compared with 36.7 percent of all other women. All of these women most commonly reported avoidance symptoms (Table 13-5 and 13-6).

## Discussion

These results indicate that trauma exposure and PTSD are over-represented among poor women. Programs geared toward women and families in poverty, such as CalWORKs and TANF, will likely have to contend with participants facing the potentially debilitating symptoms of PTSD. These analyses suggest that the majority of women using welfare have some symptoms of PTSD. Individuals with symptoms of PTSD may often experience similar impairment in social and occupational functioning associated with a full clinical diagnosis. Despite the lack of diagnostic data in the CWSHS, the data suggest many women are clearly symptomatic and could benefit from intervention. State programs targeted toward women in poverty should be aware of trauma issues and the impact on participants' health and occupational functioning.

## Posttraumatic Stress Disorder

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**Table 13-1**

### Frequency of Posttraumatic Stress Disorder (PTSD) symptoms, 2001

Symptom	Percent (N=3343)
Re-Experiencing	16.0 (N=535)
Avoidance	15.1 (N=505)
Hypervigilance	9.7 (N=324)
Emotional Numbing	12.0 (N=401)
Any PTSD Symptoms	28.2 (N=943)

Source: California Women's Health Survey (CWHS)

**Table 13-2**

### Frequency of Posttraumatic Stress Disorder (PTSD) symptoms, 2002

Symptom	Percent (N=3348)
Re-Experiencing	15.0 N=502
Avoidance	15.0 N=502
Hypervigilance	8.9 N=298
Emotional Numbing	12.7 N=425
Any PTSD Symptoms	27.5 N=921

Source: California Women's Health Survey (CWHS)

**Table 13-3**

### Posttraumatic Stress Disorder (PTSD) and poverty status, 2001

Symptoms	Percent Below Federal Poverty	Percent Above Federal Poverty	Odds Ratio (N=3343)
Re-Experiencing	19.1	15.5	1.3 (1.0, 1.7)
Avoidance	22.3	13.9	1.8 (1.4, 2.3)
Hypervigilance	16.9	8.6	2.2 (1.6, 2.9)
Emotional Numbing	15.1	11.6	1.4 (1.0, 1.8)
Any PTSD Symptoms	58.3	37.0	2.4 (1.8, 3.1)

Source: California Women's Health Survey (CWHS)

**Table 13-4**

### Posttraumatic Stress Disorder (PTSD) and poverty status, 2002

Symptoms	Percent Below Federal Poverty	Percent Above Federal Poverty	Odds Ratio (N=3348)
Re-Experiencing	15.7	14.8	1.1 (.82, 1.4)
Avoidance	24.5	13.3	2.1 (1.7, 2.7)
Hypervigilance	16.6	7.6	2.4 (1.8, 3.2)
Emotional Numbing	21.2	11.3	2.1 (1.7, 2.7)
Any PTSD Symptoms	57.3	35.2	2.5 (1.9, 3.2)

Source: California Women's Health Survey (CWHS)

**Table 13-5**

**Posttraumatic Stress Disorder (PTSD) and welfare, 2001**

Symptoms	Percent Welfare	Percent No Welfare	Odds Ratio (N=3343)
Re-Experiencing	33.7	15.5	2.8 (1.8, 4.3)
Avoidance	35.9	14.5	3.3 (2.1, 5.1)
Hypervigilance	23.9	9.3	3.1 (1.9, 5.0)
Emotional Numbing	27.2	11.6	2.8 (1.8, 4.5)
Any PTSD Symptoms	64.9	38.5	3.0 (1.8, 4.8)

Source: California Women's Health Survey (CWHs)

**Table 13-6**

**Posttraumatic Stress Disorder (PTSD) and welfare, 2002**

Symptoms	Percent Welfare	Percent No Welfare	Odds Ratio (N=3348)
Re-Experiencing	31.9	14.2	2.8 (2.0, 4.1)
Avoidance	31.9	14.2	2.8 (2.0, 4.1)
Hypervigilance	25.7	8.1	4.0 (2.6, 5.8)
Emotional Numbing	24.3	12.2	2.3 (1.6, 3.4)
Any PTSD Symptoms	61.1	36.7	2.7 (1.8, 4.0)

Source: California Women's Health Survey (CWHs)

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# Access to Mental Health Services Among California Women

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## CHAPTER 14

### Introduction

Both racial/ethnic and socioeconomic disparities in mental health status are gaining increasing national attention (*National Healthcare Disparities Report*, 2004). Utilization of specialty mental health services varies significantly by race/ethnicity and socioeconomic status. (For the purposes of this chapter, specialty mental health services are defined as those obtained from a social worker, psychiatrist, psychologist, or counselor). Disparate access to care is thought to be a major factor in mental health outcomes. This chapter examines demographic predictors of access to specialty mental health services including race/ethnicity and poverty as well as associated factors such as education, marital status, and health insurance status. Access is examined as a function of perceived need for mental health services in the past year, attempts to obtain those services, and utilization of specialty mental health services in the past year.

### Methods

Using data from the 2001 California Women's Health Survey (CHWS), the California Department of Social Services (DSS) analyzed data from 3,571 women for the current study. All women were asked about their perceived need for specialty mental health services in the past year. Women who reported having a perceived need were asked if they tried to obtain mental health services. Those who responded affirmatively were asked if they obtained the mental health services they thought they needed in the past year. Mental health status was measured using the "frequent mental distress" (FMD) variable<sup>1</sup> from the "Healthy Days" measure, a reliable and valid set of four items

developed by the Centers for Disease Control and Prevention that is widely used to assess health-related quality of life.<sup>2</sup> FMD is characterized by reports of 14 or more days of poor mental health ("including stress, depression and problems with emotions") in the past 30 days.

### Data Analysis

Data were analyzed using SPSS for windows version 11.0. Bivariate relationships were examined using odds ratios (OR); logistic regression equations were used to examine multivariate models and to obtain adjusted ORs. Confidence intervals (CIs) of 95 percent were calculated for all ORs. An OR compares the probability of a certain event (e.g., obtaining mental health care) in two different groups. An OR of one suggests that the event is equally likely in both groups; an OR greater than one suggests that the event is more likely in one group than another. An OR smaller than one indicates that the event is less likely in the group of interest. If the range of values for the 95 percent CI includes one, the OR is not statistically significant at the  $p < .05$  level. All analyses are weighted to California's 1990 female population by age and ethnicity.

### Results

A total of 31.1 percent of women reported a perceived need for mental health services, and 56.7 percent of these women made attempts to obtain mental health services. The majority of women who attempted to obtain services were successful: 86.7 percent of these women utilized specialty mental health services in the

past year. A total of 14.7 percent of women reported frequent mental distress. Women reporting frequent mental distress were more likely to report a perceived need for mental health services than were women who did not report frequent mental distress,  $OR=4.5$  (95 percent CI 3.7, 5.4). Frequent mental distress was not associated with the likelihood of trying to obtain mental health services,  $OR=0.9$  (95 percent CI 0.7, 1.2), or of actually obtaining these services,  $OR=0.7$  (95 percent CI 0.5, 1.2).

Several correlates for the three indicators of access to care: perceived need, efforts to obtain services, and utilization of services, were examined. The correlates included ethnicity, age, education, marital status, poverty, frequent mental distress, and having a health insurance plan. Table 11-1 illustrates the associations between these factors and access to care.

### Perceived Need

The strongest correlate of perceived need for mental health services was frequent mental distress. Women who reported frequent mental distress were over four times as likely as other women to report a need for mental health services in the past year. Ethnicity, age, and marital status also correlated with perceived need for mental health services despite the level of mental distress. Hispanic and Asian women were less likely to perceive a need for mental health services, while women 40 years of age and over as well as separated or divorced women were more likely to report a need for mental health services.

### Attempts to Obtain Services

Frequent mental distress was also the strongest correlate of attempts by women to obtain mental health services when they perceived a need. Women who reported frequent mental distress were less likely to try to obtain the mental health services they felt they needed. Ethnicity, age, and marital status were also associated with women's attempts to obtain mental health services above and beyond reports of mental distress. Hispanic and Asian women were more likely

to try to obtain services, as were women 40 years of age and over. Separated or divorced women, however, were less likely to try to obtain services.

### Service Utilization

Among women who tried to obtain the mental health services they felt they needed, ethnicity, age, and insurance status were associated with utilization of these mental health services. Black/African American, Hispanic, and Asian women were all less likely to access the services they tried to obtain. Women 40 years of age and over were more likely to access services, as were women with a health insurance plan.

### Discussion

A total of 15.2 percent of California women utilized specialty mental health services in the past year. However, approximately twice as many women, or 31.1 percent, reported a perceived need for mental health services. The discrepancy between the proportion of women that need mental health services and those that ultimately receive services suggests that significant barriers to mental health care exist.

Our analyses identified distinct characteristics that describe women who may lack access to services. For example, women 40 years of age and over were less likely to perceive a need for mental health services but more likely to try and eventually obtain services. Separated or divorced women were more likely to perceive a need for services but less likely to try and obtain them. Being able to ultimately obtain services was not associated with either marital status or age.

Ethnicity, however, was consistently associated with all indicators of access to care, including the ability to ultimately obtain mental health services. Black/African American, Hispanic, and Asian women were less likely to obtain the services they felt they needed despite being as or more likely than other women to try and get these services. Much of the literature concerning racial disparities and access to mental health services has focused on cultural differences

*White women were more likely to receive the mental health services they felt they needed than non-White women.*

in acceptance of specialty mental health services or differences in rates of insurance coverage. However, we controlled for those factors in these analyses, and non-White women were still less likely than other women to get the mental health services they felt they needed and tried to obtain. These results suggest that the unmet need for mental health services in California

falls disproportionately on non-White women. The mental health service system must devote continued attention towards cultural competence as well as outreach. Support for California's overburdened public mental health system is necessary in order to ensure equitable mental health care for all California women.

**Table 14-1:****Correlates of access to mental health services**

	<b>Perceived Need Adjusted Odds Ratio (95% Confidence Interval (CI))</b>	<b>Tried to Obtain Adjusted Odds Ratio (95% Confidence Interval (CI))</b>	<b>Utilization Adjusted Odds Ratio (95% Confidence Interval (CI))</b>
<b>Ethnicity</b>			
White	Referent		
Black/African American	1.1 (0.9, 1.6)	0.8 (0.6, 1.2)	0.3 (0.2, 0.6)*
Hispanic	0.7 (0.6, 0.9)*	1.3 (1.1, 1.6)*	0.6 (0.4, 0.9)*
Asian/Pacific Islander	0.5 (0.4, 0.7)*	2.0 (1.4, 2.8)*	0.4 (0.3, 0.8)*
Native American	1.0 (0.6, 1.5)	1.0 (0.6, 1.6)	0.6 (0.3, 1.2)
Other	1.9 (0.1, 39.3)	0.5 (0.3, 10.8)	**
<b>Age</b>			
18-29	Referent		
30-39	0.9 (0.7, 1.1)	1.1 (0.9, 1.3)	2.6 (1.8, 3.6)*
40-49	0.7 (0.6, 0.9)*	1.3 (1.0, 1.7)	2.9 (1.9, 4.3)*
50-59	0.5 (0.4, 0.7)*	1.8 (1.4, 2.4)*	1.7 (1.1, 2.7)*
60+	0.2 (0.1, 0.2)*	6.3 (4.4, 9.2)*	1.6 (0.8, 3.1)
<b>Marital Status</b>			
Married or Partnered	reference		
Separated or Divorced	1.7 (1.4, 2.2)*	0.6 (0.5, 0.7)*	1.4 (1.0, 2.1)
Single	1.5 (0.9, 2.4)	0.7 (0.5, 1.1)	1.1 (0.5, 2.7)
Widowed	1.2 (0.9, 1.4)	0.9 (0.7, 1.1)	1.2 (0.8, 1.6)
Education Less than High School	0.8 (0.6, 1.0)	1.3 (1.0, 1.7)	0.8 (0.5, 1.3)
At or Below Federal Poverty Level	0.9 (0.7, 1.1)	1.1 (0.9, 1.5)	1.1 (0.2, 1.8)
Have Health Insurance Plan	0.9 (0.7, 1.1)	1.2 (0.9, 1.5)	1.8 (1.2, 2.5)
Frequent Mental Distress	4.5 (3.7, 5.6)*	0.2 (0.2, 0.3)*	0.9 (.7, 1.2)

\* Indicates significant findings

\*\* cell size too small to calculate

Source: California Women's Health Survey (CWHs)



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# Breast Cancer Screening Among California Women Ages 40 and Above, 1997-2002

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## CHAPTER 15

Breast cancer is the most commonly diagnosed cancer and the second leading cause of deaths due to cancer, after lung cancer, among California women.<sup>1</sup> In 2004, an estimated 22,415 women living in California are expected to be diagnosed with breast cancer, and 4,195 women are expected to die from breast cancer.<sup>2</sup> However, since 1988, the rate of newly diagnosed breast cancer cases in California has remained fairly stable, and the breast cancer mortality rate has decreased by 24 percent.<sup>3</sup>

Routine breast cancer screening is an important preventive health activity for women. If breast cancer is discovered at an early stage when it is most treatable, before it has grown and invaded tissues outside of the breast, a woman has more than a 95 percent chance of surviving the next five years.<sup>4</sup> In fact, an increase in the number of women obtaining breast cancer screening services has resulted in more breast cancers being diagnosed at an early stage, which has contributed to the recent decline in mortality.

The California Department of Health Services (CDHS) and the American Cancer Society recommend that women ages 40 years and above receive an annual mammogram and clinical breast examination (CBE).

Some women ages 40 years and above may be unaware of the importance of having both a CBE and a mammogram - a complete screening - every year as part of a routine breast cancer screening regimen. Mammography is not 100 percent sensitive, but it is the current standard test used to screen for breast cancer. Though a mammogram can detect a breast cancer that cannot be felt, a health professional conducting a CBE may feel a breast mass that is not

seen on a mammogram. Therefore, receiving both exams annually is a woman's best strategy to detect breast cancer at an early, most treatable stage.<sup>5</sup>

Although screening rates have greatly improved since the late 1980s, many women are still not receiving complete breast cancer screening services annually. Some women may be unable to access screening services because they are uninsured, have health insurance that does not cover breast cancer screening services, or cannot afford health insurance co-pays or deductibles. This report describes breast cancer screening among women ages 40 years and above by various demographic characteristics, such as health insurance status, based on women's responses to the California Women's Health Survey (CWHs) questions.

### Methods

Since 1997, CDHS' Cancer Detection Section (CDS) has sponsored questions related to breast cancer screening on CWHs. Each year from 1997 to 2002, women were asked if they ever had a mammogram and/or a CBE and how long it had been since they had their last screening. (See appendix for exact question wording.)

Analysis was performed by year and cumulatively for years 1997 through 2002. For cumulative analysis, multiple years of data were aggregated to obtain precise estimates of screening prevalence rates among demographic groups with small numbers of respondents. Table 15-1 shows numbers of respondents to survey questions.

All analyses included women who reported having been previously diagnosed with breast cancer (an annual average of 4.7 percent of women ages 40 years and above). Women who responded “don’t know” or who refused to answer a question were excluded. Interviews in 2002 that were partially completed were also excluded from analyses to avoid introducing bias. Women who reported having their last mammogram and their last CBE within the past year were identified as having a “complete screening” within the past year. The racial/ethnic group “Other” includes non-Hispanic women who reported any race/ethnicity other than White, Black/African American, or Asian/Pacific Islander. Screening rates among women of Other race/ethnicity are not presented in the figures due to the small number of respondents. Analysis by poverty status compares screening rates among women living at or below 200 percent of the federal poverty level (FPL) to rates among women living above 200 percent FPL. (The annual FPL is a measure of poverty specified by the U.S. Department of Health and Human Services that is adjusted according to annual household income and household size. For example, in 2002, two family members who resided in the same house or apartment and had an annual gross household [combined] income of \$23,880 were considered to be living at 200 percent FPL.<sup>6)</sup>

Reported percentages are weighted estimates adjusted to California’s 1990 Census population by age and race/ethnicity. Confidence intervals were calculated at the alpha 0.05 level. The coefficient of variation (CV) was computed to assess the reliability of the estimated prevalence points. Proportions with a CV greater than 0.23 were considered unreliable. To test for trend, a least squares model was used (to regress proportion on year over the six-year time period). A p-value of less than 0.05 indicated a statistically significant trend.

## Results

### Breast Cancer Screening Trends

Prevalence estimates produced from CWHHS data indicate that, in general, breast cancer screening among California women ages 40 years and above remained fairly stable over the time period 1997 to 2002 (shown in Figure 15-1). The proportion of women who reported having a CBE within the past year did not change significantly during this time period ( $p < 0.064$ ). Though the increase over time in the proportion of women who

had a mammogram within the past year was slight, the trend was statistically significant ( $p < 0.032$ ). There was no significant change in the proportion of women who obtained complete screenings (both a mammogram and a CBE) within the past year ( $p < 0.053$ ).

In 2002, 67.5 percent of California women ages 40 years and above reported having a CBE within the past year, 63.2 percent reported having a mammogram within the past year, and 53.7 percent reported having a complete screening within the past year.

Though it is estimated that nationally more than one out of every three women still do not receive an annual mammogram,

California has already surpassed the Healthy People 2010 objective of 70 percent of women ages 40 years and above receiving a mammogram within the past two years (Figure 15-2). In 2002, 79.3 percent of California women ages 40 years and above reported having their last mammogram within the past two years.

### Breast Cancer Screening, 1997-2002

According to cumulative 1997 through 2002 CWHHS data, breast cancer screening rates among women ages 40 years and above differed with respect to a woman’s race/ethnicity, age, poverty status, and health insurance status (presented in Table 15-2).

*Efforts promoting annual complete breast cancer screening (both a mammogram and a clinical breast exam (CBE) should focus on women with low reported screening rates: uninsured women, women living at or below 200 percent federal poverty level (FPL), and Hispanic and Asian/Pacific Islander women.*

Aggregated data analysis indicate that, on average during 1997 through 2002, Hispanic and Asian/Pacific Islander women were less likely to receive breast cancer screening services than Black/African American and White women. As presented in Table 15-2, 42.6 percent of Hispanic women and 40.5 percent of Asian/Pacific Islander women reported having a complete screening within the past year, compared with 54.7 percent of Black/African American women, 53.3 percent of White women, and 51.7 percent of Other women.

Also shown in Table 15-2, women ages 50 years and above were more likely than women ages 40 to 49 years to report having a mammogram within the past year. Older women (65 years and above), however, were less likely to obtain a CBE within the past year than women ages 40 to 64 years.

As illustrated in Figure 15-3, the relationship seen between breast cancer screening services and age group was also observed among each racial/ethnic group. Regardless of race/ethnicity, women ages 50 years and above were more likely than younger women to report having a mammogram within the past year. But when comparing mammography use among women ages 50 and above of different racial/ethnic groups, Asian/Pacific Islander women ages 65 years and above had the lowest rate of mammography within the past year (57.2 percent), and Black/African American women ages 50 to 64 years had the highest rate of mammography within the past year (72.6 percent). Among younger women (40 to 49 years), fewer Hispanic women reported having a mammogram within the past year (43.4 percent) than did women of other racial/ethnic groups. Though not shown, Asian/Pacific Islander women ages 65 years and above reported a notably lower rate of CBE use within the past year (43.7 percent), compared to Hispanic (51.6 percent), White (63.3 percent), and Black/African American (64.7 percent) women 65 years and above.

CWHS data suggest that poverty status may influence breast cancer screening among women. Table 15-2 demonstrates that women living at or below 200 percent FPL were less likely to receive a mammogram within the past year, and much less likely to receive an annual CBE, than higher income women. Only 39.2 percent of women living at or below 200 percent FPL reported having a complete screening within the past

year, compared with 54.9 percent of women living above 200 percent FPL.

Despite their low-income status as a group relative to other racial/ethnic groups, mammography use among Black/African American women living at or below 200 percent FPL remained high (60.4 percent) compared with White (52.8 percent), Hispanic (48.5 percent), and Asian/Pacific Islander (51.2 percent) women of the same poverty status (Figure 15-4). A similar relationship with regard to CBE use among women by poverty status and racial/ethnic group was observed in the data (not shown).

Table 15-2 shows that, in general, the more stable a woman's health insurance status, the more likely she was to receive an annual breast cancer screening. Only 22.6 percent of women with no health insurance reported having a complete screening within the past year, compared with 34.6 percent of women who were insured at the time of interview but experienced a lapse in their coverage during the prior year, and 53.9 percent of women with some type of continuous health insurance.

Screening by health insurance status varied more among some racial/ethnic groups than others. Uninsured White women reported the lowest use of mammography within the past year (24.6 percent), compared with uninsured Black/African American (45.0 percent) and Hispanic (33.4 percent) women (Figure 15-5). Though not shown, uninsured White women were also less likely to report receiving a CBE within the past year (34 percent), relative to uninsured Black/African American (43.2 percent) and Hispanic (39.3 percent) women. (Prevalence rates of breast cancer screening among uninsured Asian/Pacific Islander women are unreliable [CV= 0.51] due to the small number of respondents and are not presented.)

## Discussion

Breast cancer screening among California women ages 40 years and above, as represented by CWHS respondents (women who have a home telephone, speak English or Spanish, and are not institutionalized), remained fairly stable during the years 1997 through 2002. In 2002, approximately two-thirds of all California women ages 40 years and above had either a mammogram or a CBE within the past year.

California has surpassed the Healthy People 2010 objective that 70 percent of all women ages 40 years and above receive a mammogram within the past two years; in 2002, 79.3 percent of California women 40 years and above had a mammogram within the past two years.

However, this report found that some groups of women are not receiving services that can detect breast cancer at an early, more treatable stage. During 1997 through 2002, fewer Hispanic and Asian/Pacific Islander women obtained mammograms and CBEs within the past year than did White and Black/African American women. Only 39 percent of women living at or below 200 percent FPL and a mere 23 percent of uninsured women had a complete breast cancer screening - both a mammogram and a CBE - within the past year.

These results provide information that public health

professionals can use to promote and provide breast cancer screening services to targeted populations. As well as educating women about the benefits of routine breast cancer screening, messages promoting screening should emphasize that having a complete breast cancer screening every year is the most effective method of detecting breast cancer.

Though annual breast cancer screening should be encouraged for all California women, outreach efforts should focus on groups of women with low reported screening rates. Many low-income and uninsured women may be eligible for CDHS' *Cancer Detection Programs: Every Woman Counts (CDP:EWC)* free services. Health professionals should encourage all low-income women ages 40 years and above who are uninsured or have limited health insurance coverage to call *CDP:EWC* at (800) 511-2300 to qualify for free breast cancer screening and diagnostic services.

**Table 15-1:**

**Number of respondents, ages 40 years and above, to California Women's Health Survey  
breast cancer screening questions, by year and cumulative years 1997-2002<sup>a</sup>**

	<b>Mammogram N</b>	<b>Clinical Breast Exam N</b>	<b>Complete Screening N</b>
<b>Analysis by Year</b>			
1997	2,327	2,324	2,320
1998	2,135	2,134	2,128
1999	2,343	2,336	2,336
2000	2,270	2,269	2,267
2001	2,259	2,254	2,252
2002	2,381	2,377	2,375
<b>Cumulative analysis (CWHHS 1997-2002 combined)</b>			
	<b>Mammogram N</b>	<b>Clinical Breast Exam N</b>	<b>Complete Screening N</b>
All Women Ages 40+	13,715	13,694	13,678
<b>Race/Ethnicity</b>			
White	9,996	9,975	9,966
Black/African American	726	728	726
Hispanic	2,191	2,189	2,184
Asian/Pacific Islander	638	638	638
Other	164	164	164
<b>Age</b>			
40-49	5,132	5,133	5,129
50-64	4,937	4,934	4,931
65+	3,646	3,627	3,618
<b>Poverty</b>			
> 200% FPL <sup>b</sup>	9,472	9,461	9,455
<= 200% FPL	3,056	3,051	3,042
Unknown	1,187	1,182	1,181
<b>Health Insurance<sup>c</sup></b>			
Yes	12,166	12,143	12,131
Yes, with gaps <sup>d</sup>	438	439	438
No	1,108	1,109	1,106

a Numbers include all respondents ages 40 years and above who were included in the analysis of breast cancer screening questions (women who completed the interview and answered "yes," "no," or provided an answer to the screening questions other than "don't know" or "refused").

b "FPL" refers to the federal poverty level.

c Numbers in the Health Insurance column do not total to All Women Ages 40+ because three respondents who answered "don't know" were excluded from analysis.

d Respondents reported being insured at time of interview, but had a lapse in coverage during the past year.

Source: California Women's Health Survey (CWHHS)



**Table 15-2:**

**Breast cancer screening within the past year among women ages 40 years and above,  
California 1997-2002<sup>a</sup>**

	Had CBE Within the Past Year (Percent)	Had Mammogram Within the Past Year (Percent)	Had Complete Screening (CBE and Mammogram) Within the Past Year (Percent)
All Women Ages 40+	64.7	60.2	50.8
<b>Race/Ethnicity</b>			
White	67.1	61.9	53.3
Black/African American	70.5	63.6	54.7
Hispanic	55.4	53.7	42.6
Asian/Pacific Islander	56.1	55.8	40.5
Other	62.4	53.4	51.7
<b>Age</b>			
40-49	65.6	48.0	42.7
50-64	67.2	66.6	58.0
65+	61.3	66.4	52.1
<b>Poverty</b>			
> 200% FPL <sup>b</sup>	69.8	62.8	54.9
<= 200% FPL	51.5	51.8	39.2
Unknown	62.9	63.9	52.2
<b>Health Insurance<sup>c</sup></b>			
Yes	67.6	63.7	53.9
Yes, with gaps in the past 12 months	54.2	41.4	34.6
No	36.2	28.4	22.6

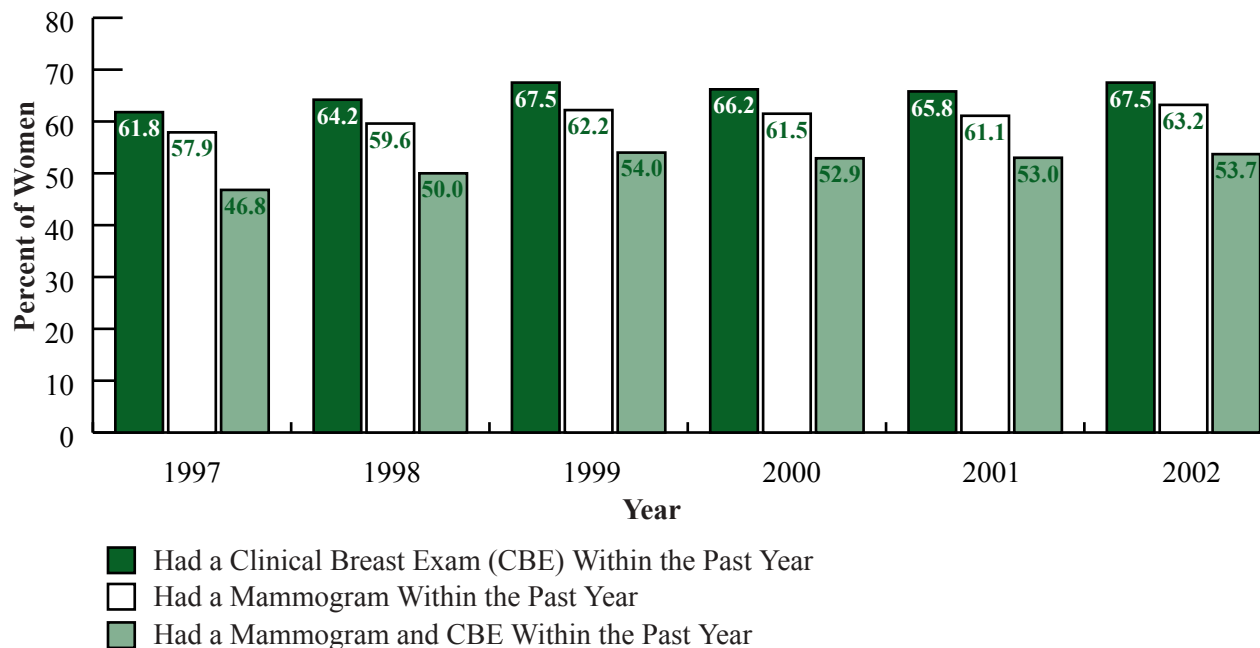
All percentages are weighted. Women who responded “don’t know” or refused to answer breast cancer screening questions were excluded.

- a Percentages of breast cancer screening presented in this table are not comparable to other percentages presented in this report by year; this table presents results of the analysis of six years (1997 through 2002) of aggregated CWHHS data. Data was combined to increase the number of respondents in some demographic groups in order to increase the precision of the reported statistics.
- b “FPL” refers to the federal poverty level.
- c Three observations with a health insurance status of “don’t know” were excluded from analysis.

Source: California Women’s Health Survey (CWHHS)

**Figure 15-1:**

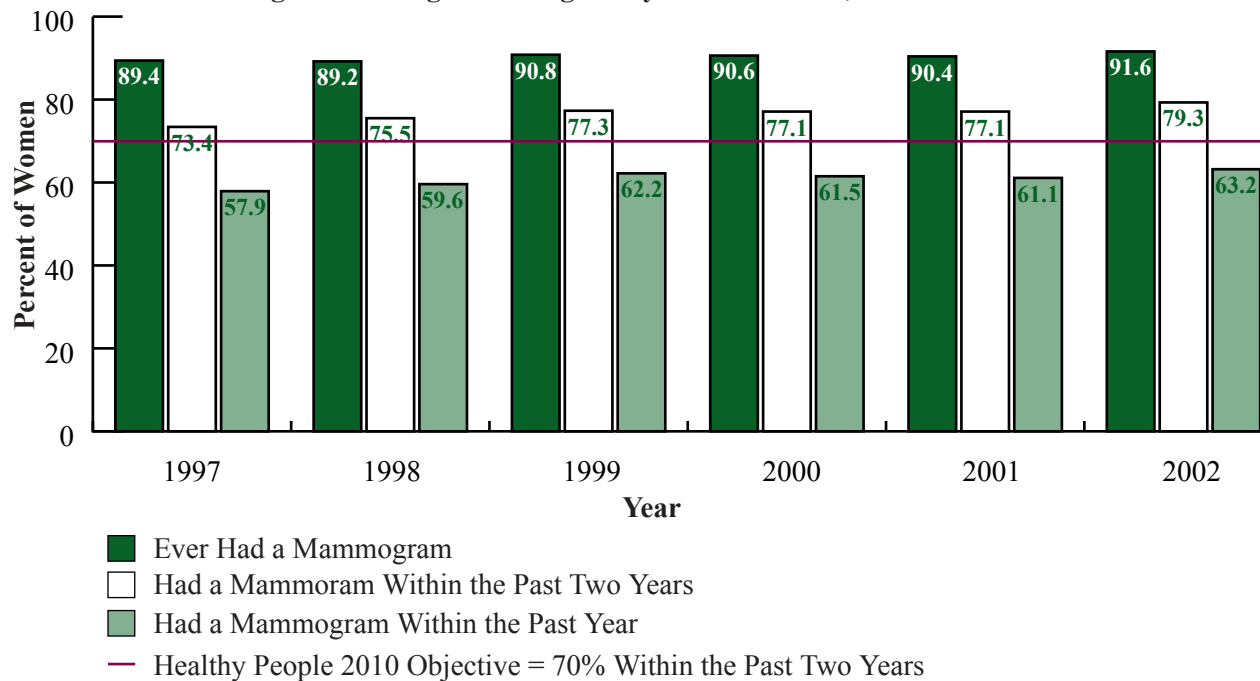
**Breast cancer screening among women ages 40 years and above, California 1997-2002**



Source: California Women's Health Survey (CWHS)

**Figure 15-2:**

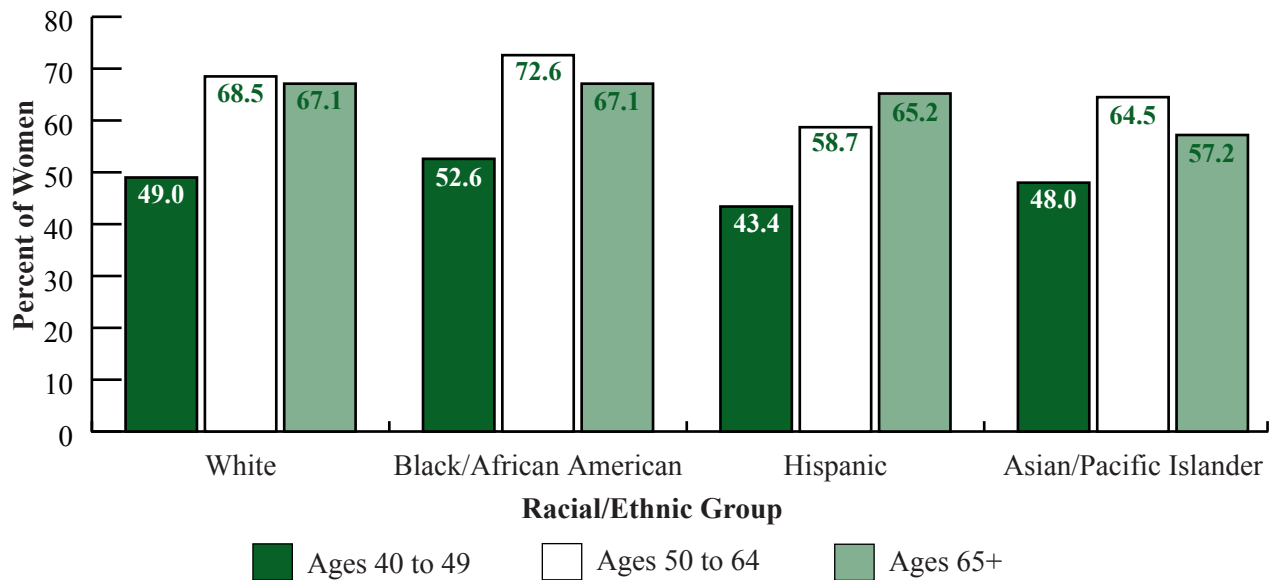
**Mammograms among women ages 40 years and above, California 1997-2002**



Source: California Women's Health Survey (CWHS)

**Figure 15-3:**

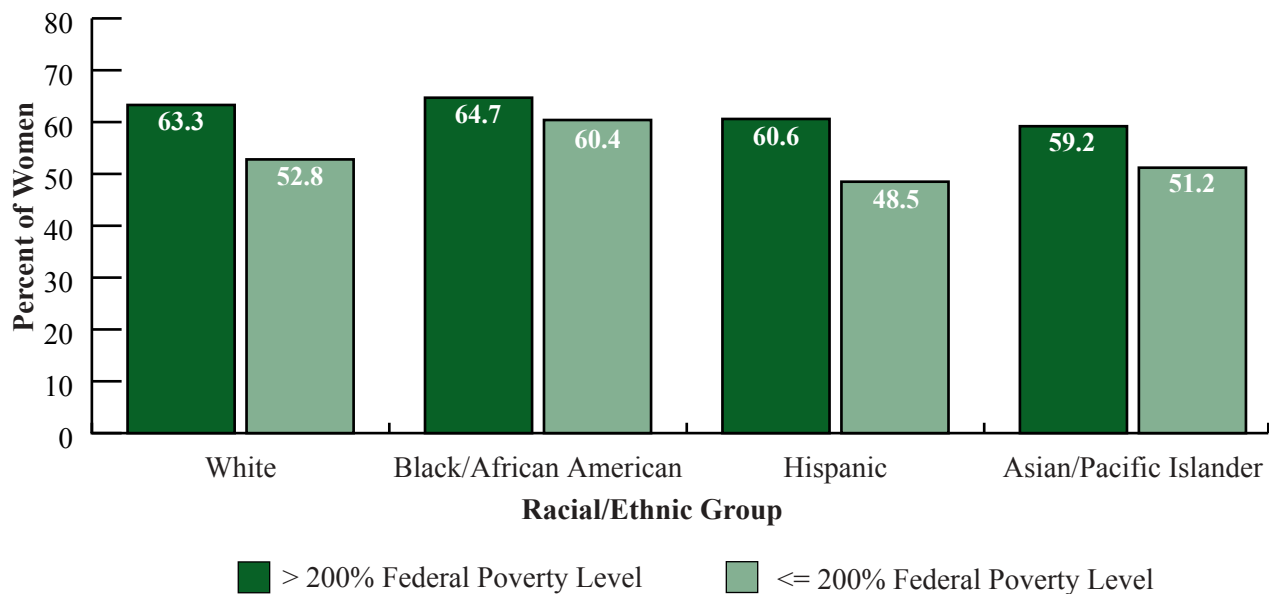
**Women ages 40 years and above who had a mammogram within the past year, by race/ethnicity and age, California 1997-2002**



Source: California Women's Health Survey (CWHS)

**Figure 15-4:**

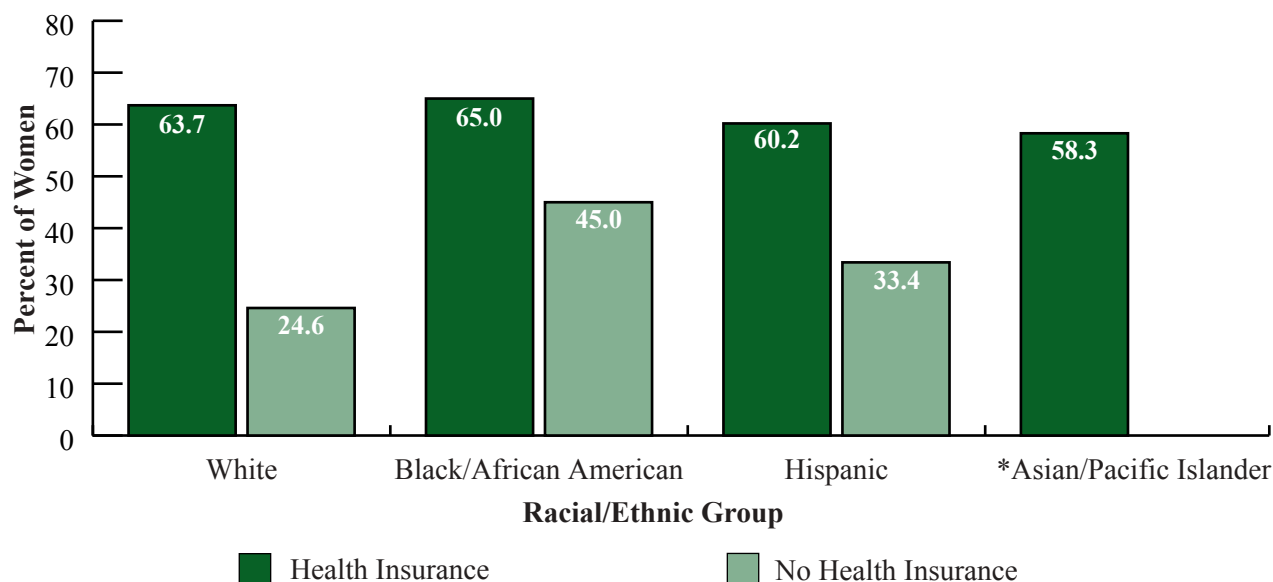
**Women ages 40 years and above who had a mammogram within the past year, by race/ethnicity and poverty status, California 1997-2002**



Source: California Women's Health Survey (CWHS)

**Figure 15-5:**

**Women ages 40 years and above who had a mammogram within the past year, by race/ethnicity and health insurance status, California 1997-2002**



\* Estimates for Asian/Pacific Islander women with no health insurance are not reliable due to small sample size so they are not presented.

Source: California Women's Health Survey (CWHHS)

## Endnotes

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## California Women's Health Survey Questions (Main Topics) and Years Covered in the Report

### Chapter 1

*AGE (Years 1997-2001)*

**How old were you on your last birthday?**

- \_\_\_\_ Enter age in years  
7. Don't know/Not sure  
9. Refused

*AGEB (Years 2002-2003)*

**What is your age?**

- \_\_\_\_ Enter age in years  
7. Don't know/Not sure  
9. Refused

*HISPANIC (Core) (Years 1997-2001)*

**Are you of HISPANIC ORIGIN such as Mexican American, Latin American, Puerto Rican or Cuban?**

1. Yes                      2. No  
7. Don't know/Not sure   9. Refused

*HISP3 (Core) (Years 2002-2003)*

**Are you Hispanic or Latino? (This includes Mexican American, Latin American, Puerto Rican or Cuban?)**

1. Yes                      2. No  
7. Don't know/Not sure   9. Refused

*ORACE2 (Core) (Years 1997-2000)*

**What is your race? Would you say: White, Black, Asian, Pacific Islander, American Indian, Alaska Native, or Other?**

1. White                      2. Black  
3. Asian                      4. Pacific Islander  
5. American Indian, Alaska Native  
6. Other: (specify) ORACETXT (Recoded, not retained)  
7. Don't know/Not sure   9. Refused

*ORACE2A (Core) (Years 1997-2003)*

**Are you Chinese, Japanese, Korean, Filipino, Vietnamese, Cambodian, Laotian, East Indian, Indonesian or Other?**

- |                                      |                |
|--------------------------------------|----------------|
| 1. Chinese                           | 2. Japanese    |
| 3. Korean                            | 4. Filipino    |
| 5. Vietnamese                        | 6. Cambodian   |
| 7. Laotian                           | 8. East Indian |
| 9. Indonesian                        | 10. Hawaiian   |
| 11. Samoan                           | 12. Pakistani  |
| 13. Saipanese                        | 14. Fijian     |
| 15. OTHER: (specify) ORA2ATXT (Text) |                |
| 77. Don't know/Not sure              | 99. Refused    |

*ORACE3 (Core) (Years 2001-2003)*

**Which one or more of the following would you say is your race?**

Please read and mark all that apply.

1. White  
2. Black or African American  
3. Asian  
4. Native Hawaiian or Other Pacific Islander  
5. American Indian or Alaska Native  
6. Other [specify] ORACETXT (Recoded, not retained)  
77. Don't know/Not sure  
99. Refused

*ORACE4 (Core) (Years 2001-2003)*

**Which one of these groups would you say best represents your race?**

1. White  
2. Black or African American  
3. Asian  
4. Native Hawaiian or Other Pacific Islander  
5. American Indian or Alaska Native  
6. Other [specify] ORACETXT (Recoded, not retained)  
7. Don't know/Not sure  
9. Refused



*EDUCA (Core) (Years 1997-2003)*

**What is the highest grade or year of school you completed? (Read Only if Necessary)**

1. Eighth grade or less
2. Some high school (grades 9-11)
3. Grade 12 or GED certificate (High school graduate)
4. Some technical school
5. Technical School Graduate
6. Some College
7. College graduate
8. Post graduate or professional degree
9. Refused

*INCOM01 (Core) (Years 2001-2002)*

**Which of the following categories best describes your annual household income from all sources? Less than \$10,000; \$10,000 to less than \$15,000; \$15,000 to less than \$20,000; \$20,000 to less than \$25,000; \$25,000 to less than \$35,000; \$35,000 to less than \$50,000; \$50,000 to less than \$75,000; \$75,000 to less than \$100,000 or \$100,000 or more?**

1. Less than \$10,000
2. \$10,000 to less than \$15,000
3. \$15,000 to less than \$20,000
4. \$20,000 to less than \$25,000
5. \$25,000 to less than \$35,000
6. \$35,000 to less than \$50,000
7. \$50,000 to less than \$75,000
8. \$75,000 to less than \$100,000
9. \$100,000 or more
77. Don't know/Not sure
88. \$0, No income
99. Refused

*INCOM94B (Core) (Years 1997-2003)*

**Which of the following categories best describes your PERSONAL annual income from all sources, that is, the amount of money you, yourself, bring into the household? Less than \$10,000; \$10,000 to less than \$15,000; \$15,000 to less than \$20,000; \$20,000 to less than \$25,000; \$25,000 to less than \$35,000; \$35,000 to less than \$50,000; \$50,000 to less than \$75,000; \$75,000 to \$100,000, or more than \$100,000?**

1. Less than \$10,000
2. \$10,000 to less than \$15,000
3. \$15,000 to less than \$20,000
4. \$20,000 to less than \$25,000
5. \$25,000 to less than \$35,000
6. \$35,000 to less than \$50,000
7. \$50,000 to less than \$75,000
8. \$75,000 to \$100,000
9. more than \$100,000
77. Don't know/Not sure
88. \$0; Doesn't have any personal income
99. Refused

*INCOM95 (Core) (Years 1997-2000)*

**Which of the following categories best describes your annual household income from all sources? Less than \$10,000; \$10,000 to less than \$15,000; \$15,000 to less than \$20,000; \$20,000 to less than \$25,000; \$25,000 to less than \$35,000; \$35,000 to less than \$50,000; \$50,000 to \$75,000; or over \$75,000?**

1. Less than \$10,000
2. \$10,000 to less than \$15,000
3. \$15,000 to less than \$20,000
4. \$20,000 to less than \$25,000
5. \$25,000 to less than \$35,000
6. \$35,000 to less than \$50,000
7. \$50,000 to \$75,000
8. Over \$75,000
77. Don't know/Not sure
99. Refused

## Chapter 2

**Now I would like to ask you a few questions about cigarette smoking ...**

*SMOKE100 (Years 1997-2002)*

**Have you smoked at least 100 cigarettes in your entire life?**

5 packs = 100 cigarettes

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*SMKEVDA2 (Years 1997-2002)*

**Do you now smoke cigarettes everyday, some days, or not at all?**

- |               |              |
|---------------|--------------|
| 1. Everyday   | 2. Some days |
| 3. Not at all | 9. Refused   |

## Chapter 3

**Next I would like to ask you a few questions about alcohol use.**

*DRNKANY1 (Years 1997-2002)*

**During the past month, have you had at least one drink of any alcoholic beverage such as beer, wine, wine coolers, or liquor?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*DRKALC (Years 1997-2002)*

**During the past month, how many days per week or per month did you drink any alcoholic beverage, on the average?**

- \_\_\_ Enter Number
- \_\_\_ Enter Week or Month
- 777. Don't know/Not sure
- 888. None (F6)
- 999. Refused

*NALCOCC (Years 1997-2002)*

**A drink is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. On the days when you drank, about how many drinks did you drink on the AVERAGE?**

- \_\_\_ Enter Number of drinks (One half= .5)  
(verify if GT 11)
- 77. Don't know/Not sure
- 88. None
- 99. Refused

*DRINKGE5 (Years 1997-2002)*

**Considering all types of alcoholic beverages, how many times during the past month did you have 5 or more drinks on an occasion?**

- \_\_\_ Enter Number of times (verify if GT 15)
- 77. Don't know/Not sure
- 88. None
- 99. Refused

*DRUNK (Years 1999-2002)*

**How often in the past year did you drink enough to feel drunk?**

- \_\_\_ Enter Number of times (verify if GT 10)
- 77. Don't know/Not sure
- 99. Refused

*FAS (Year 1999)*

**In your opinion, which ONE of the following best describes Fetal Alcohol Syndrome. Would you say a baby is born:**

- 1. drunk,
- 2. addicted to alcohol, or,
- 3. with certain birth defects
- 4. Doesn't know what F.A.S. is (Do Not Read)
- 7. Don't know/Not sure
- 9. Refused

## Chapter 4

**My next few questions are about the use of vitamin and mineral supplements.**

*VITAMCT2 (Year 1998)*

**Are you CURRENTLY taking multi-vitamins, prenatal vitamins, mineral or food supplements?**

- 1. Yes
- 2. No
- 7. Don't know/Not sure
- 9. Refused

*VITATAKE (Year 1998)*

**What vitamin, mineral and/or food supplements are you currently taking?**

(Do not read. Check all that apply)

- 1. A multi or prenatal vitamin
- 2. Folic acid/Folate
- 3. Vitamin C supplement
- 4. Iron supplement
- 5. Body building nutrition supplement
- 6. Weight loss drink such as SLIM FAST
- 7. Vitamin fortified drinks
- 8. Other supplements, please specify
- 77. Don't know/Not sure
- 99. Refused

## Chapter 5

**Now I'd like to ask you some questions about your own sexual experience. If you are uncomfortable talking about this, please tell me and we will move on.**

*SEXBHAGE (Years 1997-2001)*

**How old were you at that time of your first sexual intercourse experience?**

- \_\_\_ Enter age in number of years
- 555. Never had intercourse
- 777. Don't know/Not sure
- 888. Refused Module
- 999. Refused Question

*SEXBHNUM (Year 1998)*

**How many male sexual partners have you had in the last 12 months?**

- \_\_\_ Enter number
- 777. Don't know/Not sure
- 888. Refused Module
- 999. Refused Question

*OTHRPAR2 (Years 1998-2000)*

**This question is about a new male sexual partner. A new sexual partner is someone you had sex with for the first time. During the past 12 months, did you have a new male sexual partner?**

- |                        |                     |
|------------------------|---------------------|
| 1. Yes                 | 2. No               |
| 7. Don't know/Not sure |                     |
| 8. Refused Module      | 9. Refused Question |

*FRSTCOND (Years 1998-2000)*

**Did you use a condom when you had sex with that person the first time?**

- |                        |                     |
|------------------------|---------------------|
| 1. Yes                 | 2. No               |
| 7. Don't know/Not sure |                     |
| 8. Refused Module      | 9. Refused Question |

**I would now like to ask you some questions about sexually transmitted diseases or STDs.**

*AIDSTALK (Year 1998)*

**Thinking about your current or most recent sexual partner, which of the following statements best describes how you have talked about AIDS with that partner? Would you say you . . .**

1. Never talked to your partner about AIDS
2. Mentioned AIDS once or twice, but didn't talk seriously about your risks
3. Talked seriously about your risks
7. Don't know/Not sure
9. Refused Question
8. Refused Module

**I'd like to ask you a few questions about douching. (If respondent does not know what douching is, use the following description: By douching, I am referring to flushing the inside of the vagina with fluid.)**

*DOUCHEVR (Year 2001)*

**During the past 12 months, have you douched?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 8. Refused |

*DOUCHOFN (Year 2001)*

**How often do you douche?**

- \_\_\_ Enter Number of times per day, week, month, or year
- |                         |             |
|-------------------------|-------------|
| 77. Don't know/Not sure | 99. Refused |
|-------------------------|-------------|

## Chapter 6

**I would now like to ask you some questions about sexually transmitted diseases or STDs.**

*STDCHLYD (Years 1997, 2000, 2001)*

**Have you ever heard of chlamydia?**

- |                        |                     |
|------------------------|---------------------|
| 1. Yes                 | 2. No               |
| 7. Don't know/Not sure |                     |
| 8. Refused Module      | 9. Refused Question |

**Please tell me if you think the following statements are true or false:**

*STDHRPT2 (Year 2001)*

**Genital herpes can be transmitted even when there are no symptoms present (such as a sore or blister).**

- |                        |            |
|------------------------|------------|
| 1. True                | 2. False   |
| 7. Don't know/Not sure | 9. Refused |

*STDHRPNO (Year 2001)*

**Most people with genital herpes know they have it.**

- |                        |            |
|------------------------|------------|
| 1. True                | 2. False   |
| 7. Don't know/Not sure | 9. Refused |

*STDADV (Year 1997)*

**During the past 12 months, did your doctor or other health care provider talk to you about your personal sexual behavior?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused Question    |                   |

*STDADV2 (Year 2002)*

**During the past 12 months, did a doctor or other health care provider talk to you about your personal sexual behavior?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*CHLYDTST (Years 1999-2002)*

**Have you been tested for chlamydia during the past 12 months?**

- |                                 |                     |
|---------------------------------|---------------------|
| 1. Yes                          | 2. No               |
| 3. Don't know what chlamydia is |                     |
| 7. Don't know/Not sure          |                     |
| 8. Refused Module               | 9. Refused Question |

*CHLYDWHR (Years 1999, 2000, 2002)*

**Where did you get tested?**

- |                                     |                        |
|-------------------------------------|------------------------|
| 1. Public STD Clinic                | 2. Other Public Clinic |
| 3. Family Planning clinic           | 4. Community clinic    |
| 5. Private doctor                   | 6. Emergency Room      |
| 7. Student Health Center            | 8. Military facility   |
| 9. Jail or other detention facility |                        |
| 10. HMO                             | 11. Other (specify)    |
| 77. Don't Know/Not sure             | 99. Refused Question   |

*AIDSTST3 (Year 1997)*

**Have you ever had your blood tested for HIV?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*REASTST3 (Year 1997)*

**What was the main reason you had your last blood test for HIV?**

1. For hospitalization or surgical procedure
2. For routine checkup
3. Because it was part of a blood donation process
4. Because of pregnancy
5. Just to find out if you were infected/Curiosity
6. Partner is HIV positive
7. Partner shoots drugs
8. (Male) partner who has sex with other men
9. Partner with hemophilia
10. I was told by a doctor that I had a sexually transmitted disease
11. I have shot drugs
12. I had unprotected sex with someone whose past drug use I didn't know
13. I had unprotected sex with someone whose HIV test results I didn't know
14. Occupational exposure
15. For employment
16. Other (specify)
77. Don't know/Not sure
99. Refused

*AIDSNOT (Year 1997)*

**What is the MAIN reason you have NOT had your blood tested for HIV?**

(Read only if necessary)

1. No reason to think that I have AIDS/Not in high risk group
2. Feel nervous about how it would turn out
3. Don't know how to get tested
4. Unsure that the results would be confidential/Privacy concerns
5. Other (Specify)
7. Don't know/Not sure
9. Refused

*STDTOLD (Year 1997)*

**During the past 12 months, have you been told by a doctor or other health care provider that you have a sexually transmitted disease?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused Question    |                   |

*STDDX (Year 1997)*

**What did the doctor or other health care provider tell you it was?**

(Mark all that apply; Do not read)

- |                                      |                     |
|--------------------------------------|---------------------|
| 1. Chlamydia                         | 2. Genital Herpes   |
| 3. Genital Warts (HPV)               | 4. Gonorrhea        |
| 5. HIV or AIDS                       |                     |
| 6. Pelvic Inflammatory Disease (PID) |                     |
| 7. Syphilis                          | 8. Trichomonas      |
| 9. Yeast Infection                   | 10. Other (specify) |
| 77. Don't Know/Not Sure              | 88. Refused Module  |
| 99. Refused Question                 |                     |

*STDHRPTD (Year 1999)*

**Have you ever been told by your health care provider that you have genital herpes?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

## Chapter 7

*PREGNANT (Years 1998-2001)*

**To your knowledge, are you now pregnant?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*PROBPREG (Years 1998, 2001)*

**In the past, have you ever tried for more than 12 months to get pregnant and weren't successful?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*INFERTIL (Years 1998, 2001)*

**Have you ever been told by a doctor or other health professional that you were infertile?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*BCUSE2 (Years 1998-1999)*

**Are you or your male sexual partner using a birth control method to prevent pregnancy? This includes male or female sterilization.**

- |                           |                   |
|---------------------------|-------------------|
| 1. Yes                    | 2. No             |
| 3. No male sexual partner |                   |
| 7. Don't know/Not sure    | 8. Refused Module |
| 9. Refused Question       |                   |

*BCUSE3 (Years 2000-2003)*

**Are you or your male sex partner using a birth control method to prevent pregnancy? This includes male or female sterilization.**

- |                           |                   |
|---------------------------|-------------------|
| 1. Yes                    | 2. No             |
| 3. No male sexual partner |                   |
| 7. Don't know/Not sure    | 8. Refused Module |
| 9. Refused Question       |                   |

*BCTYPE (Years 1998-2001)*

**Which birth control method or methods are you using?**

(Read only if necessary) (Select all that apply)

1. Male sterilization/vasectomy
2. Female sterilization
3. Norplant/implants
4. Depo-Provera/Injectables
5. Birth control pills/oral contraceptive
6. IUD/coil/loop
7. Condoms/rubbers
8. Diaphragm
9. Female condom/vaginal pouch
10. Cervical cap
11. Foam/jelly/cream/vaginal contraceptive film (VCF)
12. Withdrawal/pulling out
13. Natural family planning/Rhythm/Fertility Awareness
14. Other (Specify)
77. Don't know/Not sure
88. Refused Module
99. Refused Question

*BCWHYNOT (Years 1998-2001)*

**What is the MAIN reason that you are not CURRENTLY using birth control?**

(Read only if necessary)

1. Does not like side effects
2. Birth control is too difficult to use
3. Lovemaking would be interrupted
4. Birth control is too messy
5. Concerned about long term health problem
6. Partner objects to using birth control
7. Does not know how or where to get
8. Cannot afford birth control
9. Against religion
10. Pregnancy would be O.K.
11. Postpartum nursing
12. Didn't think about it
13. Not sexually active
14. Can't get pregnant/Sterilized
15. Partner is a woman
16. Refused module
17. Partner sterile
18. Natural family planning
19. Monogamous
20. Doesn't like or want to use birth control
21. Infrequent sexual activity
22. Health reasons
23. Not worried about pregnancy
24. Too old to get pregnant
25. No need for birth control
26. Other reason
27. Pregnant or recently pregnant
77. Don't know/Not sure
99. Refused

## Chapter 8

The next few questions are to help us learn about public awareness of folic acid.

*FOLICHER (Years 1997-2000)*

**Have you ever heard or read anything about folic acid or folate?**

- |                        |            |
|------------------------|------------|
| 1. yes                 | 2. no      |
| 7. don't know/not sure | 9. refused |

*FOLICLRN (Years 1998-2000)*

**Where did you learn about folic acid (mark all that apply)?**

1. magazine or newspaper article
2. radio
3. television
4. physician/OB-GYN/GP/FP
5. books
6. brochures/literature at health care provider's office
7. friend/relative/ co worker
8. school/college
9. label/back of vitamin bottle
10. nutrition classes other than in school or college
11. nurse/nurse practitioner
12. nursing school
13. media
14. other (specify)
15. don't know/not sure
16. refused

*VITPREN2 (Years 2000-2001)*

**Are you CURRENTLY taking multi-vitamins or prenatal vitamins?**

- |                        |            |
|------------------------|------------|
| 1. yes                 | 2. no      |
| 7. don't know/not sure | 9. refused |

*VITTAKEB (Years 2000-2001)*

(if yes to VITPREN2)

**Other than your prenatal or multi-vitamins, are you currently taking a pill containing the B vitamin folate or folic acid?**

(if NOT yes to VITPREN2)

**Are you currently taking a pill containing the B vitamin folate or folic acid?**

- |                        |            |
|------------------------|------------|
| 1. yes                 | 2. no      |
| 7. don't know/not sure | 9. refused |

*VITTAKEC (Year 2002)*

**Are you CURRENTLY taking a prenatal or multi-vitamin pill or a pill containing the vitamin folate or folic acid?**

- |                        |            |
|------------------------|------------|
| 1. yes                 | 2. no      |
| 7. don't know/not sure | 9. refused |

*VITDAILY (Year 2002)*

**Do you take any of these on a daily basis?**

- |                        |            |
|------------------------|------------|
| 1. yes                 | 2. no      |
| 7. don't know/not sure | 9. refused |

*FOLICEAT (2001)*

**Consuming foods with adequate levels of folic acid has been shown to reduce the risk of birth defects in newborn infants. Would knowing that some cereals had 100% of the daily amount of folic acid in one serving increase your likelihood of purchasing the cereal? Would you say ...**

1. not at all
2. somewhat
3. very likely
4. doesn't eat cereal
5. don't know/not sure
6. doesn't know what folic acid is
7. refused

*FOLICEAB (Year 2002)*

**Would knowing that some cereal had 100% of the daily amount of folic acid in one serving increase your likelihood of purchasing the cereal?**

- |                        |            |
|------------------------|------------|
| 1. yes                 | 2. no      |
| 7. don't know/not sure | 9. refused |

## Chapter 9

*HEIGHT (Years 1997-2002)*

**About how tall are you without shoes?**

Round fractions down. Enter height in feet and inches (Ex. 5 feet 11 inches = 511).

- Enter height  
(verify if Less Than 408 or Greater Than 608)  
777. Don't know/Not sure  
999. Refused

*WEIGHT (Years 1997-2002)*

**About how much do you weigh without shoes?**

Round fractions up.

- Enter weight in whole pounds  
(verify if Less Than 80 or Greater Than 350)  
777. Don't know/Not sure  
999. Refused

*FOODWIC (Years 2000-2002)*

**In the last 12 months have you received food assistance from WIC (coupons/vouchers)?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |



*OUTOFFD (Years 1999-2002)*

**The food that I bought just didn't last, and I didn't have money to get more. Was that OFTEN, SOMETIMES, or NEVER true for you in the last 12 months?**

- |                        |                  |
|------------------------|------------------|
| 1. Often               | 2. Sometimes, or |
| 3. Never true          |                  |
| 7. Don't know/Not sure | 9. Refused       |

*AFRDMEAL (Years 1999-2002)*

**I couldn't afford to eat balanced meals. Was that OFTEN, SOMETIMES, or NEVER true for you in the last 12 months?**

- |                        |                   |
|------------------------|-------------------|
| 1. Often true          | 2. Sometimes true |
| 3. Never true          |                   |
| 7. Don't know/Not sure | 9. Refused        |

*CUTMEAL (Years 1999-2002)*

**In the last 12 months, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*CUTOFTN (Years 1999-2002)*

**How often did this happen? Was it almost every month, some months but not every month, or, only in one or two months in the last 12 months?**

- |                                     |
|-------------------------------------|
| 1. Almost every month               |
| 2. Some months, but not every month |
| 3. Only in one or two months        |
| 7. Don't know/Not sure              |
| 9. Refused                          |

*EATLESSC (Years 1999-2002)*

**In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*EVRHNGRY (Years 1999-2002)*

**In the last 12 months, were you ever hungry but didn't eat because you couldn't afford enough food?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*SELFWGHT (Years 2000-2002)*

**Currently, do you consider yourself:**

- |   |                |
|---|----------------|
| 1. Overweight                             | 2. Underweight |
| 3. About the right weight for your height |                |
| 7. Don't know/Not sure                    | 9. Refused     |

*DIET12M (Years 2001-2002)*

**Have you intentionally tried to lose weight in the past 12 months?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*HAVEPLN3 (Years 2001-2002)*

**Do you have ANY kind of health coverage? (This would include health insurance, prepaid plans such as HMOs - health maintenance organizations - or government plans such as Medicare or MediCal)**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*GAPPLN (Years 2001-2002)*

**In the past 12 months, was there any time that you did NOT have ANY health insurance or coverage?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*HMOPPO2 (Years 2001-2002)*

**Do you receive your health care through an HMO (Health Maintenance Organization)?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*FEELWGHT (Year 2000)*

**Does the way you feel about yourself depend on how much you weigh? Would you say it is ...**

- |                        |                        |
|------------------------|------------------------|
| 1. very related        | 2. somewhat related    |
| 3. not very related    | 4. not at all related? |
| 7. Don't Know/Not Sure | 9. Refused             |

*DAILYEAT (Year 2002)*

**A serving is about 1/2 cup of vegetables or fruit, 6 ounces of 100% fruit or vegetable juice, a medium piece of fruit, or 1 cup of green salad. About how many servings of fruits and vegetables do you usually eat or drink on an average day?**

- Enter number
- |                        |
|------------------------|
| 7. Don't know/Not sure |
| 9. Refused             |

*DAILYVEG (Year 2002)*

**How many total servings of fruits and vegetables do YOU think you should eat every day for good health?**

(That's a combined total of BOTH fruits and vegetables.)  
(A serving = ½ cup of vegetables or fruit, 6 ounces of juice, a piece of fruit, 1 cup of green salad)

\_\_\_ Enter number

7. Don't know/Not sure

9. Refused

**Now I'm going to read you a few statements that people have made about their food situation. For these statements, please tell me whether the statement was **OFTEN** true, **SOMETIMES** true, or **NEVER** true for you in the last 12 months. (That is, since **MONTH** of last year)**

*EXERMOD (Core)*

**In a usual week, how many days do you do moderate activities for at least 10 minutes at a time, such as brisk walking, bicycling, vacuuming, gardening, or anything else that causes some increase in breathing or heart rate?**

\_\_\_ Enter number of times

777. Don't know/Not sure

888. None

999. Refused

*EXEROFTM (Core)*

**On days when you do moderate activities for at least 10 minutes at a time, how much total time do you spend doing these activities?**

\_\_\_ Enter number of minutes

\_\_\_ Enter number of hours

777. Don't know/Not sure

999. Refused

*EXBMODAB (Year 2002)*

**For good health, how many days a week do you think a person **SHOULD** participate in moderate or vigorous physical activity, exercise, or sports?**

\_\_\_ Enter number of days

777. Don't know/Not sure

999. Refused

*EXBMODMB (Year 2002)*

**On these days, for how many minutes do YOU think a person **SHOULD** be moderately or vigorously active?**

\_\_\_ Enter number of minutes

777. Don't know/Not sure

999. Refused

*EXERWORK (Year 2002)*

**When you are at work, which of the following best describes what you do?**

1. Mostly sitting or standing

2. Mostly walking

3. Mostly heavy labor or physically demanding work

7. Don't know/Not sure

8. Doesn't work

9. Refused

*WORKNTRN (Year 2002)*

**Does your employer provide any convenient nutrition-related benefits, such as nutrition classes, weight loss groups, discounts on healthy food choices in the worksite cafeteria, or labeled healthy dining selections in the worksite cafeteria?**

1. Yes

2. No

7. Don't know/Not sure

9. Refused

*WORKPHYS (Year 2002)*

**Does your employer provide any convenient physical fitness benefits, such as a gym, health club membership, exercise classes, release time for physical activity, sports teams, lockers or showers?**

1. Yes

2. No

7. Don't know/Not sure

9. Refused

*HINSNTRN (Year 2002)*

**Does your health insurance coverage include an affordable weight loss program or nutrition counseling?**

1. Yes

2. No

7. Don't know/Not sure

9. Refused

## Chapter 10

**First I'd like to ask some questions about your health.**

*GENHLTH (Core)*

**Would you say that in general your health is: Excellent, Very good, Good, Fair, or Poor?**

1. Excellent

2. Very good

3. Good

4. Fair

5. Poor

7. Don't know/Not sure

9. Refused

*CHECKUP2 (Core)*

**Some people visit a doctor for a routine checkup, even though they are feeling well and have not been sick.**

**About how long has it been since you last visited a doctor for a routine medical checkup?**

(Read only if necessary)

1. Within the past year (0 years to 1 year)
2. Within the past 2 years (more than 1 year to 2 years)
3. Within the past 5 years (more than 2 years to 5 years)
4. More than 5 years ago
7. Don't know / Not sure
8. Never
9. Refused

*PHYSHLTH (Core)*

**Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?**

Enter Number of days

77. Don't know/Not sure
88. None
99. Refused

*MENTHLTH (Core)*

**Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?**

Enter Number of days

77. Don't know/Not sure
88. None
99. Refused

*POORHLTH (Core)*

(Ask if *PHYSHLTH* >=1 or *MENTHLTH* >=1)

**During the past 30 days for about how many days did poor physical or mental health keep you from doing your usual activities such as self-care, work or recreation?**

Enter Number of days

77. Don't know/Not sure
88. None
99. Refused

*DISANY (Core)*

**Are you limited in any way in any activities because of a physical, mental, or emotional problem?**

1. Yes
2. No
7. Don't know/Not sure
9. Refused

*DISLONG (Year 2003)*

**How long have your activities been limited?**

1. Less than six months
2. Six months to 1 year
3. One year to 5 years
4. More than five years
7. Don't know/Not sure
9. Refused

*DISCARE (Year 2003)*

**Has this problem ever made it hard for you to get medical care?**

1. Yes
2. No
7. Don't know/Not sure
9. Refused

*DISMDPRB (Year 2003)*

**What problem or problems have you had getting medical care?**

1. Transportation
2. Lack of specialists I need
3. Wrong exam tables or other equipment
4. Lack of assistance (for example with removing clothing, moving)
5. Bad attitude/Insensitivity of health workers
6. Costs/Insurance exclusions
7. Lack of time allotted for appt.
8. Other (specify) \_\_\_\_\_
77. Don't know/Not sure
99. Refused

*FLUVAC (Year 2003)*

**During the past 12 months, did you get a flu shot?**

1. Yes
2. No
7. Don't know/Not sure
9. Refused

*HOWLONG2 (Year 2003)*

**How long has it been since you had your last mammogram?**

(Read only if necessary)

1. Within the past year (more than 0 months to 12 months ago)
2. Within the past 2 years (more than 1 year to 2 years ago)
3. Within the past 3 years (more than 2 years to 3 years ago)
4. Within the past 5 years (more than 3 years to 5 years ago)
5. More than 5 years ago
7. Don't know/Not sure
9. Refused

*MAMMDFPB (Year 2003)*

**How difficult would it be for you to pay for the cost of a mammogram? Would you say very difficult, somewhat difficult, or not at all difficult?**

1. Very difficult
2. Somewhat difficult
3. Not at all difficult
7. Don't know/Not sure
9. Refused

*WHENCBE (Year 2003)*

**How long has it been since your last clinical breast exam? (Read only if necessary)**

1. Within the past year (more than 0 months to 12 months ago)
2. Within the past 2 years (more than 1 year to 2 years ago)
3. Within the past 3 years (more than 2 years to 3 years ago)
4. Within the past 5 years (more than 3 years to 5 years ago)
5. More than 5 years ago (Go to F40CBEGB)
7. Don't know/Not sure
9. Refused

*GYNEXAM (Year 2003)*

**When was your last regular female check-up, also called your annual gynecologic exam?**

(This may or may not include a Pap test). F6=Not Applicable

- \_\_\_\_ Enter month  
 \_\_\_\_ Enter Year  
 7777. Don't Know  
 8888. Never  
 9999. Refused

## Chapter 11

*OSTEOHRD (Years 2000-2001)*

**Have you ever heard of osteoporosis?**

1. Yes
2. No
7. Don't know/Not sure
9. Refused

*OSTEODEF (Years 2000-2002)*

**What do you think osteoporosis is?**

(Do Not Read List)

1. Bone loss (loss of bone, less bone mass/density, holes in your bones, thin bones)
2. Joint problems (painful joints, stiff joints, can't bend knees/fingers/shoulders)
3. Other (mentioned other definition; NOT open-ended text response)
7. DK/Unsure
9. Refused

**Osteoporosis is a thinning of the bones or bone loss. This loss of bone density can lead to curving of the spine or fragile bones.**

*OSTEOIMP (Years 2000-2001)*

**How important a problem do you think osteoporosis or bone loss is for women? Would you say not at all important, not very important, somewhat important, or very important?**

1. Not at all important
2. Not very important
3. Somewhat important
4. Very important
7. DK/Unsure
9. Refused

*OSTEOTLK (Years 2000-2001)*

**Has your doctor or other health provider talked with you about how to prevent osteoporosis or bone loss?**

1. Yes
2. No
7. DK/Unsure
9. Refuse

*OSTEOTLD (Years 2000-2001)*

**Have you been told you have osteoporosis or bone loss?**

1. Yes
2. No
7. DK/Unsure
9. Refused

*OSTEOTL2 (Year 2002)*

**Have you been told by your doctor or other healthcare provider that you have osteoporosis?**

1. Yes
2. No
7. Don't know/Not sure
9. Refused

## Chapter 12

### **DOMESTIC VIOLENCE (Note: Data collection for this module began June 4, 1998)**

The next questions are about relationships. I want to be sure you know that your participation is totally voluntary and that all the answers you provide will be kept confidential. If there is a questions that you cannot or do not wish to answer, please tell me and I'll go to the next question.

#### *COUPLE (Years 1998-1999)*

**During the last 12 months have you been a member of a couple?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 3. Don't know/Not sure | 9. Refused |

No matter how well two people may get along, there are times when they disagree, get annoyed with the other person, or just have spats or fights because they're in a bad mood or tired or for some other reason. They also may use many different ways of trying to settle their differences.

#### *DVCANTLK (Years 1998-1999)*

**I have some questions of a very private nature which I want to ask you only if you are quite sure that you have privacy and no one will overhear. If you are not in that situation, I can schedule a time which would be more convenient for you.**

- |  |
|--|
| 1. Yes - continue                        |
| 2. No - Probe for date/time to call back |
| 7. Don't know/Not sure                   |
| 8. Refused Module (Go to WHOSEX)         |
| 9. Refused                               |

#### *DVTHRYOU (Years 1998-1999)*

**Thinking back over the last 12 months was there ever an occasion when a partner threw something at you?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 3. Never been Abused   | 4. No Partner     |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused             |                   |

#### *DVPUSHED (Years 1998-1999)*

**Thinking back over the last 12 months was there ever an occasion when a partner pushed, grabbed, or shoved you?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 3. Never been Abused   | 4. No Partner     |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused             |                   |

#### *DVSLAP (Years 1998-1999)*

**Thinking back over the last 12 months was there ever an occasion when a partner slapped you?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 3. Never been Abused   | 4. No Partner     |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused             |                   |

#### *DVHITYOU (Years 1998-1999)*

**Thinking back over the last 12 months was there ever an occasion when a partner kicked, bit, or hit you with a fist?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 3. Never been Abused   | 4. No Partner     |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused             |                   |

#### *DVHITTHG (Years 1998-1999)*

**Thinking back over the last 12 months was there ever an occasion when a partner hit or tried to hit you with something?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 3. Never been Abused   | 4. No Partner     |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused             |                   |

#### *DVBEATUP (Years 1998-1999)*

**Thinking back over the last 12 months was there ever an occasion when a partner beat you up?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 3. Never been Abused   | 4. No Partner     |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused             |                   |

#### *DVCHOKE (Years 1998-1999)*

**Thinking back over the last 12 months was there ever an occasion when a partner choked you?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 3. Never been Abused   | 4. No Partner     |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused             |                   |

#### *DVTHRWPN (Years 1998-1999)*

**Thinking back over the last 12 months was there ever an occasion when a partner threatened you with a knife or gun?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 3. Never been Abused   | 4. No Partner     |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused             |                   |



*DVWPNONU (Year 1999)*

**Did your partner use the knife ON YOU or fire the gun AT YOU?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 3. Never been Abused   | 4. No Partner     |
| 7. Don't know/Not sure | 8. Refused Module |
| 9. Refused             |                   |

**DOMESTIC VIOLENCE**

The next questions are about relationships. I want to be sure you know that your participation is totally voluntary and that all the answers you provide will be kept confidential. If there is a question that you cannot or do not wish to answer, please tell me and I'll go to the next question.

No matter how well two people may get along, there are times when they disagree, get annoyed with the other person, or just have spats or fights because they're in a bad mood or tired or for some other reason. They also may use many different ways of trying to settle their differences.

*DVCANTLK (Years 2000-2001)*

I have some questions of a very private nature dealing with personal relationship issues and how couples resolve problems and conflicts. By couple I mean current or former husband, partner, boy friend or girlfriend. I want to ask you these questions only if you have privacy and no one will overhear. If you are not in that situation, I can schedule a time that would be more convenient for you.

- |  |
|--|
| 1. Yes - continue                        |
| 2. No - Probe for date/time to call back |
| 7. Don't know/Not sure                   |
| 8. Refused Module                        |
| 9. Refused                               |

*DVFEAR (Years 2000-2001)*

**In the past 12 months, have you been frightened for the safety of yourself, your family or friends because of the anger or threats of a partner or former partner?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 3. No Partner          |            |
| 7. Don't know/Not sure | 9. Refused |

*DVCNTROL (Years 2000-2001)*

**At any time during the past 12 months, has a partner or former partner tried to control most or all of your daily activities? For example, controlling who you can talk to or where you can go.**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 3. No Partner          |            |
| 7. Don't know/Not sure | 9. Refused |

**Now I'd like to ask you about the last 12 months. In the past 12 months has a partner**

	Yes	No	DK/NS	REF
<i>DVYRTHRW (Years 2000-2001)</i>				
Thrown something at you?	1	2	7	9
<i>DVYRPUSH (Years 2000-2001)</i>				
Pushed, grabbed, shoved or slapped you?	1	2	7	9
<i>DVYRHIT (Years 2000-2001)</i>				
Kicked, bit or hit you with a fist?	1	2	7	9
<i>DVYRBEAT (Years 2000-2001)</i>				
Beaten you up or choked you?	1	2	7	9
<i>DVYRSEX (Years 2000-2001)</i>				
Forced you to have sex against your will?	1	2	7	9
<i>DVYRWPN (Years 2000-2001)</i>				
Threatened you with a knife or gun?	1	2	7	9
<i>DVYRUSE (Years 2000-2001)</i>				
Used a knife on you or fired a gun at you?	1	2	7	9
<i>DVYRFLOW (Year 2001)</i>				
Followed you or spied on you?	1	2	7	9

**The last few questions were about the last 12 months, these next ones are about your entire lifetime. During your entire life, has a partner ever (Ask if answer is no to any of the above)\***

	Yes	No	DK/NS	REF
<i>DVEVRTHR (Year 2000)</i>				
Thrown something at you?	1	2	7	9
<i>DVEVRPSH (Year 2000)</i>				
Pushed, grabbed, shoved or slapped you?	1	2	7	9
<i>DVEVRHIT (Year 2000)</i>				
Kicked, bit or hit you with a fist?	1	2	7	9
<i>DVEVRBET (Year 2000)</i>				
Beaten you up or choked you?	1	2	7	9
<i>DVEVRSEX (Year 2000)</i>				
Forced you to have sex against your will?	1	2	7	9
<i>DVEVRWPN (Year 2000)</i>				
Threatened you with a knife or gun?	1	2	7	9
<i>DVEVRUSE (Year 2000)</i>				
Used a knife on you or fired a gun at you?	1	2	7	9

\* DK/NS = Does Not Know / Not Sure  
REF = Refused



**DOMESTIC VIOLENCE**

The next questions are about relationships with intimate partners. By partner I mean current or former husband, partner, boyfriend or girlfriend. I want to be sure you know that your participation is totally voluntary and that all the answers you provide will be kept confidential. If there is a question that you cannot or do not wish to answer, please tell me and I'll go to the next question.

*DVFEAR (Year 2002)*

**In the past 12 months, have you been frightened for the safety of yourself, your family or friends because of the anger or threats of a partner or former partner?**

- |                       |            |
|-----------------------|------------|
| 1. Yes                | 2. No      |
| 3. No Partner         |            |
| 7. Don't now/Not sure | 9. Refused |

*DVYRCMB (Year 2002)*

**In the past 12 MONTHS have you been shoved, slapped, hit with a fist or an object, beaten, forced into sexual activity, choked, threatened with a knife or a gun, or hurt with a knife or gun by a current or former partner? Interviewer: Read Slowly.**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*DVEVRCMB (Year 2002)*

**Have you EVER been shoved, slapped, hit with a fist or an object, beaten, forced into sexual activity, choked, threatened with a knife or a gun, or hurt with a knife or gun by a current or former partner? Interviewer: Read Slowly.**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

\* DK/NS = Does Not Know / Not Sure  
REF = Refused

**If tomorrow you were hurt by an intimate partner or afraid of an intimate partner, what types of program services would you use. . .\***

	Yes	No	DK/NS	REF
<i>DVAID_A (Year 2002)</i>				
Financial Assistance	1	2	7	9
<i>DVAID_B (Year 2002)</i>				
Children's therapy/children's counseling	1	2	7	9
<i>DVAID_C (Year 2002)</i>				
Crisis counseling	1	2	7	9
<i>DVAID_D (Year 2002)</i>				
Assistance with job training/job search	1	2	7	9
<i>DVAID_E (Year 2002)</i>				
Legal services	1	2	7	9
<i>DVAID_F (Year 2002)</i>				
Help with locating housing	1	2	7	9
<i>DVAID_G (Year 2002)</i>				
Support groups	1	2	7	9
<i>DVAID_H (Year 2002)</i>				
Health services	1	2	7	9
<i>DVAID_I (Year 2002)</i>				
Battered women's shelter	1	2	7	9
<i>DVAID_J (Year 2002)</i>				
Other (specify)	1	2	7	9

## Chapter 13

**Now I'm going to ask you some questions about experiences people have had that are frightening, upsetting, or stressful to most people. Please think back over your whole life when you answer these questions. Your answers are important to us, but you do not have to answer any questions that you don't want to.**

*PTSD1 (Years 2001-2002)*

**Thinking back over your entire lifetime, have you ever had any experience or experiences that were frightening, horrible or upsetting?**

- |                        |                   |
|------------------------|-------------------|
| 1. Yes                 | 2. No             |
| 7. Don't know/Not sure | 8. Refused module |
| 9. Refused             |                   |

*PTSD2 (Years 2001-2002)*

**Now thinking about the last 30 days, did you have nightmares about any experience or think about it when you did not want to?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*PTSD3 (Years 2001-2002)*

**In the past 30 days, did you try hard not to think about any experience or go out of your way to avoid situations that reminded you of it?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*PTSD4 (Years 2001-2002)*

**In the past 30 days, have you been constantly on guard, watchful, or easily startled?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*PTSD5 (Years 2001-2002)*

**In the past 30 days, have you felt numb or detached from others, activities, or your surroundings?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

## Chapter 14

*MHHELP3 (Year 2001)*

**Now thinking about the past 12 months, did you ever want (or need) help with personal or family problems from a mental health professional, such as a psychologist, psychiatrist, counselor or therapist?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*MHTRYHL2 (Year 2001)*

**Did you try to get help from a mental health professional?**

- |                        |             |
|------------------------|-------------|
| 1. Yes                 | 2. No       |
| 7. Don't know/Not sure | 10. Refused |

*MHHLAWN2 (Year 2001)*

**Did you get help?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

## Chapter 15

**I would like to ask you a few questions about a medical exam called a mammogram. A mammogram is an x-ray of the breast to check for cancer and involves pressing the breast between 2 plastic plates.**

*HADMAM (Years 1997-2002)*

**Have you ever had a mammogram?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*HOWLONG2 (Years 1997-2002)*

**How long has it been since you had your last mammogram?**

(Read only if necessary)

1. Within the past year (more than 0 months to 12 months ago)
2. Within the past 2 years (more than 1 year to 2 years ago)
3. Within the past 3 years (more than 2 years to 3 years ago)
4. Within the past 5 years (more than 3 years to 5 years ago)
5. More than 5 years ago
7. Don't know/Not sure
9. Refused

**A clinical breast exam is when a doctor, nurse, or other health professional feels the breast for lumps.**

*HADCBE (Years 1997-2002)*

**Have you ever had a clinical breast exam?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't know/Not sure | 9. Refused |

*WHENCBE (Years 1997-2002)*

**How long has it been since your last breast exam?**

(Read only if necessary)

1. Within the past year (more than 0 months to 12 months ago)
2. Within the past 2 years (more than 1 year to 2 years ago)
3. Within the past 3 years (more than 2 years to 3 years ago)
4. Within the past 5 years (more than 3 years to 5 years ago)
5. More than 5 years ago
7. Don't know/Not sure
9. Refused

*BCHAD (Years 1997-2002)*

**Have you ever had breast cancer?**

- |                        |            |
|------------------------|------------|
| 1. Yes                 | 2. No      |
| 7. Don't Know/Not sure | 9. Refused |





**Arnold Schwarzenegger,**  
Governor, State of California

**Kimberly Belshé,**  
Secretary, Health and Human Services Agency

**Sandra Shewry,**  
Director, California Department of Health Services